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VOLUME XXIV

NUMBER 7

THE AGRICULTURAL STUDENT

OHIO STATE UNIVERSITY, COLUMBUS, OHIO

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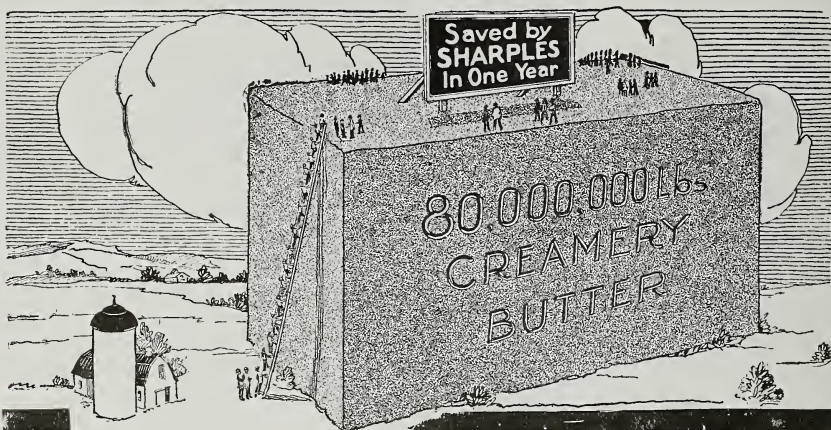
MARCH 1918

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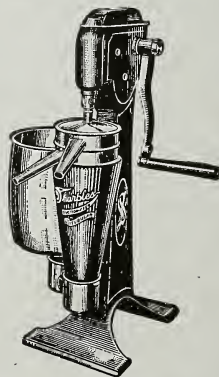
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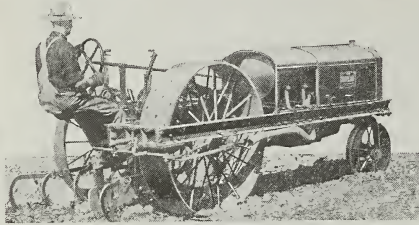
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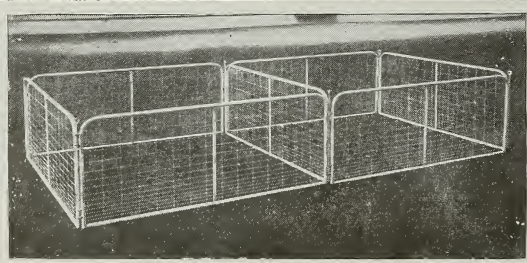
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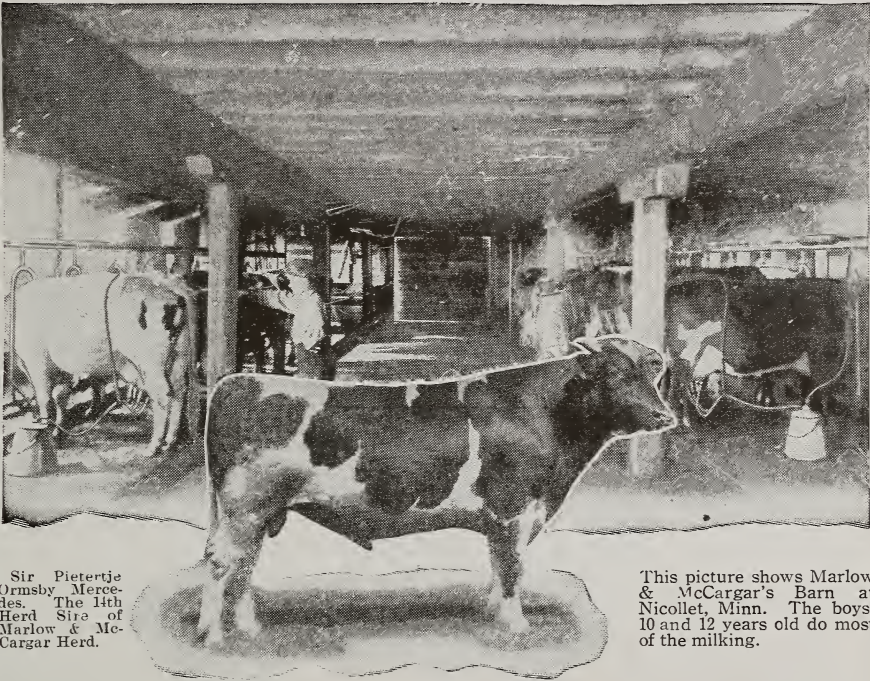
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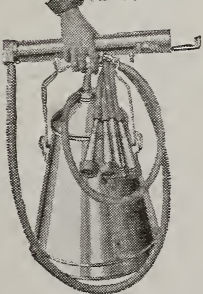
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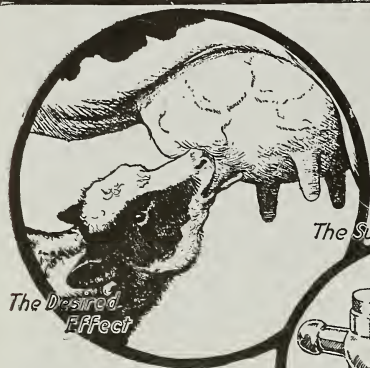
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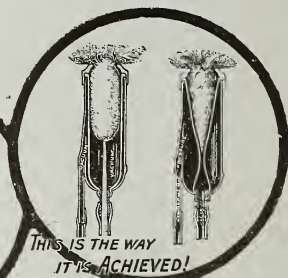
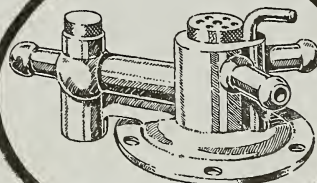
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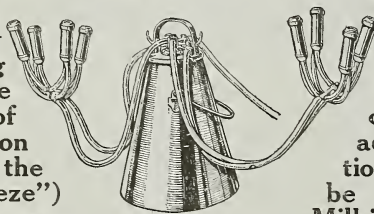
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THE AGRICULTURAL STUDENT

Vol. XXIV.

OHIO STATE UNIVERSITY, COLUMBUS, MARCH, 1918

No. 7

SOME INDIVIDUAL CHARACTERISTICS OF FARMING

Showing Why Farming Is Not Like Any Other Business; Factors Which the City Man Must Consider Before He Embarks in Farming; the Dependence of Nature Upon the Success in the Enterprise; Close Relation of the Farm Home and Farm Work

JOHN I. FALCONER, Department of Rural Economics, Ohio State University

IN recent years we have been fond of saying that "farming is a business." Frequently we have been able to hastily conclude that the principles and problems involved in productive and profitable farming are the same as those of any other industry. There are, however, several outstanding characteristics of agriculture which distinguish the farming business from other industries. In our hurried efforts to increase agricultural production we are being forced to recognize fundamental differences. A failure to recognize many of them has often led to rash and impractical efforts to apply factory methods to the farm where agricultural industry has peculiar problems of its own.

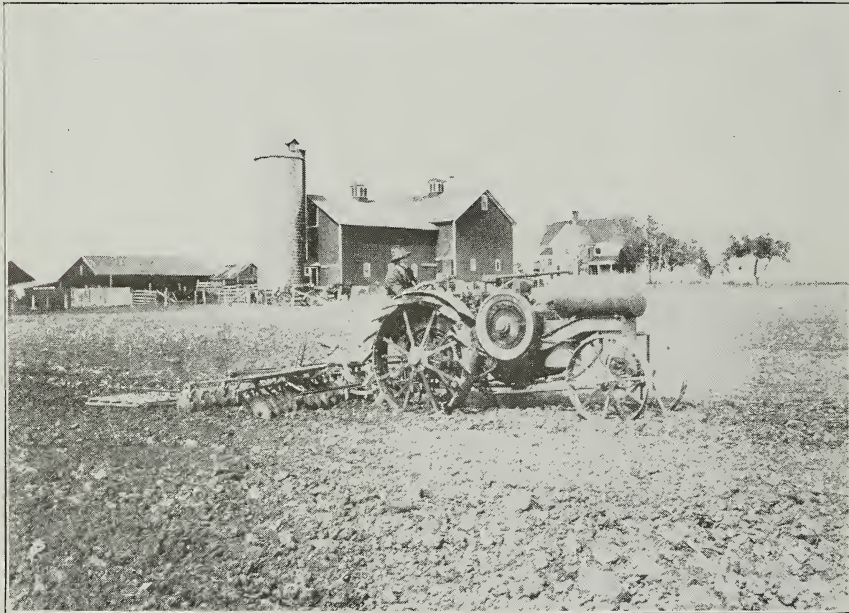
The seasonal nature of agriculture is one of these characteristics. Farm work changes with the season: one cannot plant corn or harvest wheat the year around but only when the season is right. This gives rise to alternate busy and idle periods in the work upon the farms. During the cropping season there is a demand for much more labor than during the winter months. The size of the farm business is usually limited by the amount which can be cared for during seed time to harvest. This seasonal variation in the labor requirement gives rise to much of our

farm labor problem. If there were a uniform demand for labor in productive work upon the farm the year around it would be a much easier matter to secure and keep good farm help but because of the frequent necessary range of work the division of labor is not carried out upon the farm to the same extent as in the factory. The worker in the shoe shop may run a stitching machine the year around; the factory worker learns to perform a particular operation and may keep at it for months or even years without any abrupt change. This requires neither resourcefulness or versatility but merely patience and dexterity while farm work changes with the season and requires both skill and experience.

It is the seasonal character of agriculture which causes much of the annual fluctuation in the price of farm products. Butter is cheaper in June than in January because that month is more favorable to its production; the difference between the November and the May price of potatoes is not all due to speculation. The bulk of the potato crop is harvested within a period of six weeks and the cost and risk incurred in storing until the time when they are needed for consumption must be paid for, hence in May the price must be higher than in November.

A second characteristic of farming is its dependance upon nature. In general the yield of farm crops depends more upon the weather than upon tillage. It is frequently said that the farmer is the most independent of all men but this statement certainly does not apply with reference to his dependence upon nature. A sudden change of the weather may necessitate a complete change in the farmer's plan

tillage, drainage, spraying, the use of silage and other means the farmer is able to overcome some of the irregularities of nature but still the amount of wheat to be harvested in Ohio next summer now depends mainly upon the weather, an uncertain quantity. In the table below is given the acreage and total yields of wheat in the United States for the last three years. The difference between the crop of 1915 and



Seasonal Variation Causes the Labor Problem

for the day and force him to do a kind of work which he had not planned to do at all. The work of the farmer more than that of any other class calls for versatility and resourcefulness. Neither is he so free to enlarge or diminish the size of his business as others, nor can he shut down his plant for any length of time or curtail or increase his acreage in midsummer to meet weather conditions and market developments. Factory production can be speeded up at short notice but farm projects move in cycles of from one to several years. By

that of 1917 was due largely to the weather and not to the efforts of man.

It is a dangerous situation when the reserve food supply of a nation is materially reduced and the future food supply depends entirely upon the crops of the coming year. This is especially true in times like the present when the freedom of traffic with lands of possible plenty is difficult. A large amount of the 1915 wheat crop in this country was held over by farmers and was used to supplement the 1916 crop, otherwise the food problem of last year would

have been more serious. On March 1, 1916, there were 99 billion pounds of grain on farms, the largest hold-over there has ever been, but on March 1, 1917, there was only 64 billion pounds, the lowest hold-over in fifteen years. As the reserve food supply diminishes we become more and more dependent upon the caprices of nature.

home to the farm as a business. In America with few exceptions the man who works the land lives upon the land; the farm is not only the place of business, it is also the home. In this respect farming is quite different from other occupations. There is no such sharp distinction between the business and the home in the country as there



Farm Work Provides a Common Business Interest

Crop Year.	Acres Planted.	Total Bu.
1915	61,000,000	1,026,000,000
1916	57,000,000	640,000,000
1917	60,000,000	651,000,000

Perhaps the most important of all distinctions between agriculture and other large industries is that agriculture is still and probably will continue to be an industry of small units. Certainly there is no other large industry where so large a proportion of the men engaged are actually self-employed, are property owners, and where so small a proportion are in the position of employees.

A fourth characteristic of farming is the close relation of the farm as a

is in the city. There are still a few small shops and stores where the business and the home are united and the work of the household is not sharply separated from the "business" of getting a living but these are survivals of an older day and are the exceptions rather than the rule in the industries. The family farm where the work is done largely by the operator with the help of his family is the typical farm. The members of the farm family participate in the farm work thus giving a common business interest to all the members a feature which is decidedly lacking in the average city family.

The fact that the farm provides work

for all, a common business interest, and that the farmer is self-employed has led to the statement that "the farm is the best of all schools in which to teach industry and responsibility." It is the birthplace of our most virile citizenship. This participation of the members of the family in the productive work of the farm is one of the causes tending to keep down the price of farm products. It is another factor, in addition to the weather and the diversity of enterprises on the farm which contributes to the difficulty of arriving at exact figures upon the cost of production of agricultural products. The fact that the farm is their home as well as their place of business, the place perhaps where they were born and reared, is a reason why many farmers are contented with a relatively small income from capital invested in land. It is another reason why the farm owner is more conservative than his city brother when it comes to mortgaging his resources, since if he mortgages his farm he mortgages his home. The former is less inclined to take a chance than the latter.

The close relation between the farm as a home and the farm as a business has a further effect on the farm help problem. On the farm where a hired man is needed for only four to eight months in the summer season the man employed is likely to be an unmarried man. This means that he will probably live with the family of the operator and that he will associate with his children. This puts the hired man on the

farm in a little different position than the one in the factory. It is a reason why the average farmer does not take readily to the agitation of sending the bums and the idlers of the city to the farm even though they are experienced in farm work. The organization of the farm business so as to provide work the year around thus in many instances justifying the building of a tenant house would overcome some of this difficulty and probably enable the securing and keeping of a better class of help.

A fifth characteristic is the comparative isolation of the farm home. This results from the custom in this country of the farmer living upon his land and from the comparatively large area necessary to procure a living by the ordinary type of farming. From this arise many of our rural social problems. Together with the fact that the farmer is self-employed it contributes to his individualistic characteristics. It requires some ability for the farmer to entertain himself during the long winter evenings. This is one of the characteristics which the city man is apt to overlook when he contemplates embarking in farming. The telephone, the rural free delivery and the automobile are however somewhat changing this feature. These are a few of the outstanding characteristics of farming which are constantly making themselves apparent and which must be taken into consideration in any program relating to agriculture.

DIFFERENT METHODS OF CO-OPERATION IN MICHIGAN

Comparison of the Practical Advantages of the Various Forms

WILBUR O. HEDRICK, Department of Economics, East Lansing, Michigan

COOPERATION has often been defined as "one of the forms under which a business may be controlled and managed"—in the same class with the partnership form and the joint stock corporation form. It is this and it is much more for while the joint stock association is merely a form for business control and management the co-operative association is in addition to this a natural medium for neighborhood social organization and activity. The one is a union of dollars and dollars, thru the customary stock share plan of voting and dollars are the source of control and management. The cooperative association on the other hand is a union of human beings and human beings, thru the "one man, one vote" plan of voting which prevails among these organizations, determine the policies and ideals which are pursued. The cooperative association is akin to the partnership in respect to the personal responsibility and personal participation which is required and it is this human emphasis which makes it the outstanding social centering agency which it really is.

Farmers naturally apply the cooperative idea in solving difficulties which are beyond or are too much for their individual abilities. The ordinary tasks of the farm are within his own ability to perform, but he needs the strength which comes thru union when he undertakes off-the-farm activities such as marketing, insurance and credit so that it is along these and kindred lines that cooperative associations are found. The number of individual associations is increasing amazingly and in many

farm regions the second stage in the movement—that of "pyramiding" local associations into "holding companies"—has been reached and the benefits from federation are in this way secured.

The widespread popularity and success of these associations among farmers is undoubtedly due to our steadily improving means of transportation and communication. The maxim of the old economist "that where combination is profitable competition is impossible" is no more truthful of city business men than of farmers. The automobile and telephone have brought about this possibility of combination among country people and they have quickly responded with these associations.

In applying the principle of cooperation among farmers, experience seems to justify the rule that only one line of service for its members should be undertaken by an association. This is an age of specialization and these associations seem strongest when made up of members with a community interest in one special product or activity. Besides it is almost impossible to find a manager who is equally competent to handle a grain elevator, a creamery and a milk distributing plant. The fact that an association is made up of persons rather than of dollars restricts its scope to one neighborhood since there can be no real association if members must come from distant places. Federation of neighborhood organizations is very feasible and often practiced, however, so that state wide or even nation wide action is possible.

Nothing is more essential to the suc-

cess of a cooperative association than that it have a suitable sort of organization from the standpoint of constitution and by-laws. Of course every association should be incorporated. If the undertaking is to prove successful it will need the best of legal safe-guards to maintain its members' rights and duties toward each other; on the other hand if it is destined to fail a good organization may stave off the evil day. The business advantages of the modern incorporation are too pronounced to permit any doubt about undergoing this process when agencies are to be set up which may handle millions of dollars

ciation, as it is called, has also the further advantage that being a "non-stock" and a "patronage dividend" organization it has been exempted from the operation of the Sherman Anti-Trust Law thru the Clayton Amendment. It is also exempt from the Hoover Food Administration Law except when doing a business of a million dollars and over and is also exempt from the federal income tax law.

A form of organization which receives so many favors from the government should certainly show marked excellencies in the way of compensation for such benefits and this type is not remiss

Designations.	Pure Cooperation.	State Law Cooperation.	Fixed Dividend Cooperation.	Fixed Service Cooperation.	Joint Stock Cooperation.
Incorporation Law	Act 171 1903	Act 398 1913	Act 232 1903	Act 232 1903	Act 232 1903
Membership Evidence	Membership Certificate	Stock Share	Stock Share	Stock Share	Stock Share
Organization Control	One Certificate One Vote	Each Member One Vote	Each Share One Vote	Each Share One Vote	Each Share One Vote
Apportioning of Benefits	Patronage Dividends	Patronage Dividends	Fixed Div. to Owners Patronage Div. to Patron	Stock Share Div. to Owner Patronage Div. to Patron	Stock Share Dividend

of property, and need to use large amounts of credit.

The type of organization which may be adopted varies all the way from a loose incorporated partnership to the highly organized joint stock corporation. In the little diagram given below the outlines of the actual types of farmers' association organizations which are found in the state of Michigan is given. Any of these types of organizations may be the most suitable one for the farmer depending largely upon whether much or little capital is needed. None of them are commendable of themselves but the purest style of cooperation is that outlined in the first column.

The purest type of cooperative asso-

ciation, as it is called, affords a simple scheme by which would-be cooperators may come together for concerted action thru using membership certificates as the evidences of union and the basis of original contributions of capital. This use of certificates insures democracy in management by entitling each member to only one vote. It is strictly an association for giving its members the benefits from a service which they must either do without or pay for at too high a price. It accomplishes this purpose by giving each member this service at cost—whether the turning of his butterfat into butter at the creamery or the grading of his grain at the elevator. The amount of

service one gets from such an association depends upon the patronage of it and we have therefore the renowned "patronage dividend" as the measure of the usefulness of such an organization to its members. These two results "one man one vote" and "patronage dividends" are the touchstones of successful cooperation and no other form of organization secures them in the same degree as does the form we have just described.

smallest cattle shipping association of the cross roads but always their purpose is the same,—namely to supplant middlemen in distributing farm products to their markets.

The circumstances surrounding the starting of a produce exchange are of elemental simplicity. A farmer or two in some neighborhood finds it desirable to sell directly to the wholesale markets. They are unable of themselves to furnish enough products to make a car



Developing Cooperative Community Life

In recent years the most popular cooperative associations have been the "exchange" of one sort or another. Varying in accordance with the special farm products of the different neighborhoods these cooperative exchanges may be of the cattle shipping, the fruit, the potato, or the general produce shipping varieties. Grain elevators or even the cooperative creamery or milk distributing associations are variations in name only from the various sorts of "exchanges." These organizations may range in size from the gigantic California Citrus Fruit Exchange to the

load. Neighbors are asked to cooperate and the great advantages of car load shipments are in this way made possible. None of these farmers are familiar with marketing methods so they hire a manager to take up this side of the project for them. An agreement is ultimately drawn up as to membership and the plan of organization which shall be adopted, incorporation probably follows, and after headquarters for the manager are established, a new cooperative association may be said to have been brought into being.

The commercial and production re-

actions or by-products to the farm community, which have resulted especially from the selling associations, have also been of the most helpful sort. These benefits have been in some instances indeed of no greater moment than that of the merely "getting acquainted" sort but even here determinative results have followed. The citizens of a small town in a neighboring state, for example, have found as an outcome of getting acquainted with each other that their combined resources have enabled them to benefit from a cooperative creamery, a cattle selling exchange, a telephone system, a grain elevator, and a mercantile association. The "each for all and all for each" spirit which is in this way exemplified in this little town of Svea, Minnesota, has also borne material fruits in the improved schools and churches for which this little community is noted.

The most striking of the reflex benefits, however, which are returned to the members of cooperative concerns in their capacity as producers are the benefits which result thru the unification and improvement of their methods of production—in a word, the improvement of their standards. By having these matters become the care of the whole community organization, a guarantee is given for their success which cannot be given in any other known way.

Cooperative selling associations have indeed recognized everywhere the importance of standardization. "Selling on quality" is the special ambition of each one of these concerns since the higher price which is in this way received by its members escapes the grasp

of the middleman and goes wholly to the benefit of the members of the association. The distinctive label which goes with a package of fruit, potatoes or butter from some selling association is only valuable to the association to the extent that it represents some grade or class of known characteristics and for these instances standardization becomes imperative. Cow testing associations have been encouraged by cooperative concerns because they tend toward a uniformity in milk production and eliminate the constant frictions which prevail over butterfat tests. Indeed the use of improved methods of cultivation has been adopted in many neighborhoods thru the desire to produce an output which should be standard. The stimulus to activities of this sort can scarcely be assigned limits, nor the extent of the beneficial results to a community estimated when the situation is properly handled thru cooperative association.

The approval which public authority has in recent years given to the cooperative efforts of farmers has already proven a great stimulus to the movement and there is promise of further help from the same source. Both the federal and the state governments have championed the movement—the latter largely thru special laws for the incorporation of farmers' cooperative companies and the former thru commissions of inquiry thru constructive efforts on the part of the Bureau of Markets and thru the National Farm Loan Associations promoted by the treasury department so that the outlook seems peculiarly bright.

REASONS FOR INCREASING PORK PRODUCTION IN OHIO

DONALD R. ACKLIN, State Board of Agriculture, Perrysburg, Ohio

LIVE-STOCK conditions in Ohio are more or less in an upset condition at the present time and if one thing is clear, it is evident that the producer must dust the cob-webs from his thinking apparatus and determine for himself the logical course upon which his breeding operations shall be carried for some time to come.

On all sides we hear the plea to produce more wheat, more potatoes, more pork, more beef, grow more sheep to produce more wool and the land owner does not know just what to do. On top of the plea for increased production comes the acute shortage of labor so that as a whole no systematic permanent plan has yet been evolved to produce more food for fighters in this good state of ours.

One thing is certain—we must produce more food-stuffs and there is no reason why the Ohio farmer can not find a solution of the ways and means if he once makes up his mind to it. Just what each individual may do is for him to decide but now if ever is the time for the graduates of the agricultural colleges to show what their training is worth. The one thing all of us in general come away from college with is the ability to think—to hunt out problems and determine the answer for ourselves. This should serve us in good play now because hereafter brains will be a more active principle in agriculture than ever before.

Live-stock conditions will need readjustment. The Chicago market is already an indication that the production

of prime beef is not essential. The milk industry will get on a firmer foundation and will become more stabilized. But the one thing that is certain to come about is the greater production of pork. Corn is essential to our better methods of farming and will always be produced in quantities. Corn will never be used extensively, comparatively speaking, for human consumption and nothing will convert this great crop of ours into food so efficiently as hogs. We do not appreciate corn and we do not appreciate hogs. I do not mean to belittle the sheep industry nor beef production but the cry for essentials for the men in France is for pork and fats. Pork is the need and we do not take this need seriously as we should because we always have had plenty of it and can not understand that its need is vital.

The keeping of more sows, the feeding of more pigs to increased weights is one sure way to help produce a greater food supply. Oftentimes we look afar for the answer to our troubles when in reality the answer lies right at our door. No operation connected with agriculture is more elastic than pork production. No procedure is more certain of turning out financially profitable than the keeping of a greater number of pigs. The supply is short and is likely to be short for some time after the war is over. An increased pork production is one simple answer for the troubles that have been perplexing many of us who really are anxious to do what we can to help win the war.

FIGHTING THE SAN JOSE SCALE IN OHIO

EUGENE W. MENDENHALL, Columbus, Ohio

OUR first nursery and orchard inspection law took effect 18 years ago. At that time the San Jose scale was spreading rapidly over the United States infecting practically all of our fruit trees, many shade trees and shrubs. Nursery-men as well as orchardists were alarmed and many were frightened out of business. The danger of its dissemination in shipping nursery stock made a serious problem so a required inspection and destruction of infested stock became necessary. But it looks a little brighter for the nursery-men and fruit growers, especially in regard to the control of the scale insects for we note in the past two years a decrease in the amount of stock infested by the San Jose scale and this is probably due to three causes, viz., first, the careful inspection and destruction of badly infested stock and the methods employed for further safeguard by fumigating plants before distribution with hydrocyanic-acid-gas, together with the proper and intelligent spraying on the part of the nurseryman. Keeping the nearby surroundings clean from scale insects has added much to eradicate the scale from the nurseries. Young cultivated stock are more susceptible to scale insects than older plants. It is essential for the nurseryman to keep his stock clean as possible from insect pests and plant diseases for it means dollars and cents to him. The use of soluble or miscible oils as a spray for nursery stock is satisfactory and can be safely recommended for young stock.

The second reason the San Jose scale has not spread so much in the nursery and orchard the last two years may be due partly to parasites or natural enemies. In China and other foreign lands

the scale is controlled wholly by natural conditions but when it got to our shores they began to multiply and spread rapidly as they were undisturbed by these enemies. But now we find the lady beetles are more numerous each year and no doubt they destroy the scale insects and aid greatly in holding them in check.

Some of the more common predaceous insects which are most frequently observed feeding on the scale is the pitiful lady bird (*Microwiseia* [*Pentilia*] *Misella* Lec.) Another species which is quite common is the twice stabbed lady bird (*Chilocarus* *vulnerus* Muls). It is almost identical in appearance to the Chinese or Asiatic lady bird (*Chilocorus* *Similes* Rossi), which was introduced into the United States from China through the activities of Prof. C. L. Marlatt, of the United States Bureau of Entomology, but it was not a success as it was subject to a certain native parasite which destroyed them.

There is another, a small four winged fly belonging to the parasitic hymenoptera, which is a true parasite of the scale insects. We find there are many parasites and predaceous enemies that attack of scale insects, however, the combined work of all the enemies of the insect has not been sufficient to overcome fecundity in this country.

Dr. L. O. Howard, who has given much attention to parasites of the San Jose and other scales, has prepared a list of these parasites. A parasite working of San Jose scale in Lawrence County was reported about a year ago but no more has been heard in regard to it. Prof. H. A. Surface of Pennsylvania did some work along this line and had introduced a parasite, which, was

claimed would destroy the San Jose scale and some were let loose in this state but without success.

Some attention has been given to the subject of fungous diseases of the San Jose scale. Prof. P. H. Rolps, Director of the Florida Agricultural Experiment Association, has done considerable work along this line, but this parasitic plant (*Sphaerostilbe Cocphila*) depends upon certain weather conditions and may be useful in some sections of the country.

The third cause for the apparent decrease in the San Jose scale may be due partly to weather conditions. No doubt all have their influences in lessening the spread of the San Jose scale in the last two years. While we receive great benefits from these different causes the percentage of control of the scale thus accomplished varies greatly with the locality and the time of the year and from season to season.



Corn Graders Are Inexpensive But Efficient

A CONSTRUCTIVE PROGRAM FOR THE RURAL CHURCH

Methods By Which Spiritual Leadership Is Reaching Country People

PAUL L. VOGT, Board of Home Missions, Philadelphia, Pennsylvania

NEVER before in the history of America has there been such an expression of the growth of a rural consciousness as that which has shown itself in the past few years. Co-incident with the growth of manufacturing and commercial enterprises resulting in the centralization of wealth in the cities was found a shift in social ranking which gave first place in popular estimation to the business man. For a long time both city people and country people have accepted almost without question the belief that the country could not have as good schools, churches, social life, or economic welfare as the city and have acted on this belief by removing from the country when better living conditions were desired. The rapid rise in cost of food stuffs and other agricultural products has brought to the country and to the city a new realization of the importance of agriculture and a new feeling of self-respect and of respect by others for the tiller of the soil. This increasing rural consciousness is finding its expression in remarkable ways.

In the first place, country people are demanding that they have as good homes with as modern conveniences as city people. The time is rapidly coming when the average rural home will have better plumbing, lighting, both natural and artificial, water supply and space for the children to play than the average city home. It will have better means of transportation and practically as good access to the good things of the city as the city home. The rural educational system is developing so that even now in many places the rural school system is superior to that to be

found in the cities. Economic organization and business methods on the farm are being developed so that agriculture is becoming a profession of a high order, requiring a high type of training for successful pursuit.

One of the most marked changes taking place is to be found in the attitude toward the church of those living in the smaller communities. For years church administrators have believed that apprentices in the ministry should get their training, knocking off the rough spots, by preaching on country charges. Country people would stand for the apprentice, the student pastor, the weak, the maimed, the halt, and the blind and pay for them thru their loyalty to the principles for which the church has stood. A misfit in the city or some one who had perhaps strayed from the path of rectitude in the "important" charges in the church could get back on some country point because of the everlasting patience of country people. And country people have accepted this state of affairs, that is, of being considered the last thing in the matter of pastoral appointments because they felt they could not afford more and partly because they had never had opportunity to learn the difference between good and poor pastoral service. Increased financial ability and a growing sophistication of country people has changed all this and in recent years great denominations have been bemoaning the fact that the rural churches have been dying and that the support of the ministry has not been increasing rapidly enough to attract able young men into the church. The country people on their part have been

going to conference and demanding that better preachers be sent to them. They want real broad service from real leaders of community life. They can no longer be prevailed on to pay increased salaries for service less efficient than that rendered in better paying charges. They insist on having good ministers and when they get the type for which they are seeking they are more than willing to pay a satisfactory salary for the service rendered.

A few illustrations from the experience of one of our larger denomina-

church a live, virile force in building a Christian community civilization, touching the life of the people at every point where leadership to better things is required. His program as typical of the programs of other rural ministers secured for this district includes consolidated rural schools, rural high school, good roads, better agriculture thru cooperation with the state college of agriculture, better library facilities for rural people, good health, good housing and everything that an ideal community should have. These



The Little Brown Church in the Wildwood

tions interested in the smaller communities will illustrate the marked change taking place in rural ministerial service and in rural response to this service. On the Portsmouth district, Ohio conference, Methodist Episcopal church, one church was paying last year \$460.00 for a minister of the conventional type. This year in order to secure a minister trained for the rural work, in sympathy with it, and loving country people, they brought the salary up to over \$1000.00. The minister secured has a vision of making the

things will not all be accomplished at once but they will come more quickly since they are included in a definite program. His leadership is appreciated because it is needed and the people are willing to support the church as an institution because it is touching in a vital way the life of the entire community. This minister believes that poor soils have a close relation to poor salaries, poor churches, school, social life, and to the exodus of people from rural districts.

On the Seymour district, Indiana

conference, two farmers heard an address on the type of minister needed by the modern rural community. After the conference was over they went home, got into an automobile and started out to see what they could do toward getting that type of man. In a few days they had a subscription of over \$1000.00 toward ministerial support as compared with \$238.00 paid the minister the year before and now they have a pastor highly recommended by

with the statement that he had not been supporting the church because it had not been of service to the community and that the program the present pastor represented was the type of work the rural community needed.

On the Brookhaven district, Mississippi conference, a colored agricultural district, the superintendent in cooperation with the general home mission board of the church, first made a survey of his district to learn the religious



Better Homes and Better Live Stock Mean Better Churches

Purdue University who is making a great record in real rural service.

On the Oneonta district, Wyoming conference, New York, one of the modern rural pastors needed a parsonage. In the few months that he has been on his charge he has joined the Grange, organized a boys' scout troop, and has made plans for carrying on demonstration work on ten acres of church land in cooperation with the county agricultural agent. One farmer who had not been supporting the church for years walked down the aisle of the church with a subscription for \$100.00

situation and to afford a basis for the organization of an extensive program bounded on actual knowledge of the situation. During the past year he has cooperated with the Food Conservation commission thru having two special agents at work organizing community clubs in connection with his churches. Twenty-one such clubs were organized and over 50,000 pounds of food were saved as a result. During the autumn he held a district conference at which over 1700 people were present and the conference was more like a county fair than a church organization. During

the present year this superintendent has also established relations with the state college of agriculture whereby a colored agricultural agent is located on his district. He has organized a health campaign, a housing campaign and is rapidly bringing about increased efficiency in the public school system among the country people. With all this interest in the broader problems of civilization of the colored people has gone a deep spiritual interest and growth of the support of the church as a popular agency of progress. In spite of the exodus which took away nearly 250 people from his church to other communities in the North, he still reported an increase of 388 members during the year. In view of the widespread complaint of churches everywhere about the slowness in the increase in church membership this increase is gratifying and indicates that the broad constructive program of the church which is using every means to improve the welfare of the people is deeply spiritual and is raising the standards of life in every way.

Another pastor in northwest Iowa, who had served his community for four years, became interested in work for young people because of the remarks of two boys on the street he had asked to come to church. He requested per-

mission to open club work in the basement of his church. Permission was granted and as a result after six years more of constructive service this pastor has a \$16,000.00 community club house with swimming pool attachment and an assistant in community work receiving a salary of \$1200.00 per year. His Sunday school has increased from 250 to 650. His church membership from 200 to over 800. And the services of his church are crowded with men and boys.

Examples could be repeated over and over of the work of the advance agents of the rural ministry in every denomination. The broader program of the church has won its way into the hearts of the people and ministers young and old are carrying it out with conspicuous success and with gratifying support from rural folk. The dawn of a new day in the life of the church has come and the twentieth century is witnessing, as previous centuries have witnessed, the broadening of the church to take on and conserve those forms of life which have proven to be worth while; and the church of the present is retaining as it has in the past its true position as a leader in bringing to humanity all those things which go to make life spiritual in the deepest sense.



VOCATIONAL TEACHING FOR AGRICULTURAL GRADUATES

Conditions To Be Met in Training for Work Under the Smith-Hughes Act

WILBUR F. STEWART, Department of Agricultural Education, Ohio State University

GRADUATES of the Ohio College of Agriculture have not usually considered the teaching profession as a field of possible endeavor. This is evidenced by reference to an alumni or a state teachers' directory in which the names of less than five per cent of our graduates are listed as teachers in Ohio high schools. In addition to these may be added perhaps an equal number who are teaching in the secondary schools of Indiana, Minnesota, and other states. The chief reason that may be assigned to this condition is the lack of an incentive. There has been no call for these specially trained men to serve in our high schools.

Such has been the condition in the past. The present offers a change which promises to remain even thru the distant future except as growth and development shall bring additional changes which will only enhance the usefulness and increase the attractiveness of this new opportunity.

The Smith-Hughes Act for vocational education was passed by Congress and approved by President Wilson last February. Generally speaking this is a three-pointed act directed towards providing funds for the teaching of vocational agriculture, the teaching of trade and industrial subjects, and the training of teachers for all these duties. Federal funds are appropriated to all states meeting the qualifications and requirements of the act. As the state of Ohio has met the requirements and received the approval of federal authorities the operation and effect of the law becomes a matter of state interest. And as graduates of our college of ag-

riculture are interested in agricultural progress, the section of the law referring to vocational agriculture becomes a matter of college interest. It is only to the teaching of vocational agriculture that consideration is given in this discussion.

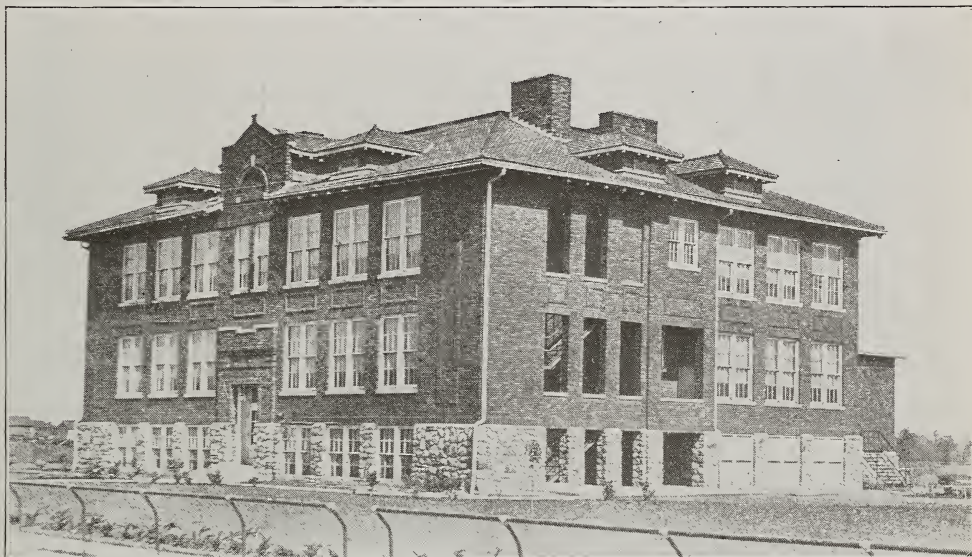
The administration of the entire act, not the agricultural section alone, in the State of Ohio is placed under the control of the State Board of Education. The plan for carrying out the provisions relative to teaching vocational agriculture follow.

High schools of the state which meet the requirements of the State Board are eligible for the consideration and approval of that Board. The teacher of vocational agriculture in the schools approved, must be a graduate of a college of agriculture or must have equivalent training. By equivalent training is meant the completion of courses in technical agriculture to the minimum amount of 40 per cent of the required long course, 136 semester hours, in addition to adequate training in the fundamental sciences and other subjects, the latter of which may have been pursued in another college. All candidates for teaching must have had two years of experience on a farm since reaching the age of fourteen years and must satisfy the state requirements of high school teachers. For a special permit to teach agriculture, valid for 24 months of teaching, credits for 18 semester hours of courses in education are required. By courses in education are meant psychology, principles of education, school administration, history of education, sociology, agricul-

tural education, and practice teaching. Upon the completion of 24 months of successful teaching a life certificate for teaching vocational agriculture is granted. The teacher of agriculture must be employed 12 months of the year, a vacation for four weeks being granted at a time when his services are least essential.

A curriculum must be submitted by each high school seeking recognition. This curriculum, consisting usually of

nection with this act is placed upon the vocational feature. The act of doing must be associated closely with the learning process. It is required that supervised practice in agriculture for six months of the year must be arranged. It is highly desirable that this practicable project work be conducted on the pupil's home farm. A large part of the work will be done during the usual summer vacation. So far as is possible the pupil should select a



Such Schools Offer Great Opportunities to College Trained Teachers

16 units, must contain four units or years of vocational agriculture, the necessary related sciences, and such additional subjects as will best "meet the needs of persons over fourteen years of age who have entered upon or who are preparing to enter upon the work of the farm." Each subject in agriculture, when offered, must be taught a double period daily. Combination of classes and alternation of agricultural subjects are allowed in the first and second years; likewise in the third and fourth years.

Emphasis in all teaching work in con-

project, with the approval of his parents and teachers, which is closely related to his course in agriculture. In this way not only is the best farm practice studied but opportunity is also provided for participation in actual practice under normal farm conditions.

Agricultural apparatus must be provided in sufficient amount to adequately meet the needs of the classes. Illustrative materials, supplies and library reference books must be provided to supplement the usual facilities for instruction. The minimum expenditure for apparatus is \$250.

The salary of the teacher of agriculture must be not less than \$1200 per year. The state will aid in paying the salary of teachers up to \$1800 by reimbursement for a part of the salary from the date the work is inaugurated with the approval of the State Board of Education. No federal money can be paid for the teaching of non-vocational subjects or sciences related to agriculture. All buildings, supplies and equipment must be furnished by the schools seeking aid.

From the foregoing summary of the operation of the act in this state several conclusions may be drawn which may be of interest to many graduates of an agricultural college. The agricultural college graduate who has the necessary farm experience and credits in courses in education has the best of preparation for this type of teaching. The duties assigned the teacher of agriculture are closely related to his special preparation, thus affording him an opportunity to grow and strengthen himself in both education and practice from the time he enters upon his new duties. Exceptional opportunities for developing leadership are offered because the duties incident to supervising the pupils in their practical projects, the contact with parents and pupils in their homes, the open invitation to the people of the entire community to be of service to them so far as the teacher's special preparation qualifies him, abound in opportunities for leading and directing the agricultural practice of the community to a higher, more scientific level. A new feature of the plan is that the period of contract extends thru the year instead of the customary nine months. Finally, tho by no means the most important to the young man who should be more concerned with "making good" than with "making money,"

is the fact that the salary offered is adequate. For the recruit the minimum is not unsatisfactory; for the experienced man who has proved his worth in a community, the maximum is—there is no maximum, within reason, provided the community appreciates and rewards proven merit.

The teaching profession even in vocational agriculture may not appeal to a majority of the graduates of the college of agriculture. They may have satisfactory opportunities to engage in agricultural duties for which they have prepared themselves, such as live stock specialists, soil specialists, farm managers and farmers. But in every college students are found who look with great favor upon the teaching profession as a desirable post-collegiate vocation. To some, the financial reward may appeal as a ready means of liquidating college debts; to others who are not able to take up their desired agricultural work at once, teaching appeals as an opportunity to combine mental development with remuneration instead of experiencing a keen loss from inactivity; and there are still others to whom the teaching profession appeals as a vocation to which they are attracted and in which they have interest and sympathy. To all of these, but to the last group in particular, a knowledge of the new conditions within the state should be of interest, of such interest that they may wisely direct their plans toward a participation in this new field.

Information which has a bearing upon the life and plans of the graduates and upper classmen is of no less importance to the lower classmen except that the time for participation is somewhat more remote. Consideration should be given and plans laid toward that end if conditions and individual

preferences tend to lead the lower classmen into the teaching profession. Election of courses can be so made as to strengthen greatly the student's preparation for teaching without materially weakening his preparation for agricultural practice. For example, by selecting his work from the departments of agricultural education and animal husbandry he may prepare himself well for teaching and also have that special preparation he would like in animal husbandry. Likewise the student who wishes special preparation in any other

individuals to whom the teaching of vocational agriculture might appeal since the requirements of the Federal Act, in demanding farm experience of qualifying teachers, make the farm reared boy the best of material for developing into a teacher of vocational agriculture? If so the agricultural college offers the way, the preparation. Graduation therefrom in the proper course will complete that preparation. Let this then be an added incentive for the farm boy to complete a course in agriculture.



Rapidly Being Replaced by Centralized Schools

department of the agricultural college may associate his special preparation in agricultural education with the department of his chosen major and be prepared in a special department of agriculture as well as for the teaching profession. Early consultation with the departments selected is desirable in the case of all undergraduates who have any inclination toward teaching.

Finally a word of encouragement should be spoken to the boy on the farm who may qualify but who has not entered college. Are there not many

Such is the present opportunity in the teaching of vocational agriculture; such the outlook into the future. It is not for every graduate of a college to follow. Of some it may deserve but little more than passing notice. But to those graduates, immediate or prospective, who feel that teaching, so far as it applies to vocational agriculture, offers an opportunity for growth and for service to their fellowmen, to all such the doors are open. The case merits careful investigation.

CONSIDERATION OF THE COST OF MILK PRODUCTION

How Both the Farmer and Dealer May Benefit by Cooperation

RICHARD C. FISHER, '18

THERE is a progressive awakening to the exceptional food value of dairy products in the human diet. Not only is this true with reference to their beneficial and strengthening action on children and convalescents but for adults as well. The United States and her Allies are recognizing the importance of milk and its products by demanding enormous supplies for the armies. This is especially true of the more concentrated products such as cheese, butter and condensed milk. The protein or tissue-building materials of dairy products are superior to those of meat and are replacing the other sources of protein on a nutritive and economical basis.

Recent investigations have proven that certain bodies, known as vitamins, are absolutely necessary to perfect nutrition. Milk has been found to be rich in these bodies so essential to growth. As such it is more and more appreciated for use in hospitals in the treatment of certain diseases. Dr. Rettger of Yale has proven that undesirable bacterial flora of the intestine, such as the putrefactive type, can be controlled by a milk diet. Dr. J. S. Crewe of Rochester, Minnesota, reports the successful use of exclusive milk diets in combating such diseases as tuberculosis, hardening of the arteries, rheumatism and nervous troubles.

The maintenance and improvement of the dairy herds of the world to insure an adequate milk supply therefore becomes of great importance to human welfare. This responsibility rests upon the American dairy farmer today for already most of the dairy

herds of Europe have been slaughtered. It is the American farmer who must feed our civil population, our army and navy, and starving Europe. When peace shall come again to war-stricken Europe, it will be the United States that will be called upon to replenish their depleted herds.

These facts are worthy of sincere consideration in connection with the recent criticisms and attacks upon those furnishing the public with this indispensable product. Committees to investigate the cost of milk production and determine just prices were appointed by the Food Administration in the principal dairy regions. The resulting investigations were welcomed by the producers because their claims were based upon actual increase in the cost of production. The individual reports of these regional commissions vary in the price of milk from \$3.10 to \$4.20 but they all agree in the following points; the cost of milk production has practically doubled in the last year, not being due to any local condition but general thruout the entire nation; increase in cost of grain, labor, cows, equipment and machinery have been the principal factors in this increase of cost of production.

Cost of Grain and Labor

The cost of grain and feed constitutes more than 50 per cent of the cost of production. The prices of grain have increased 100 to 150 per cent in the last two years as shown in the diagram. This increase in price may be attributed largely to the demand from abroad, war activities, and the increased demand for direct human consumption. The farmer must then

either compete with the market prices of grain for human consumption or find cheaper substitutes.

Since the farmer is competing with the steel mills and other war industries on the labor market this cost has more than doubled. This is especially true on the Atlantic Coast states. The labor situation is acute and many dairy farmers are forced to sell their herds because of lack of help.

Cost of Cows and Equipment

The increased cost of cows has been working against the dairy industry in two ways: high price of beef caused many farmers to sell their cows to the butcher because of the labor and feed situation and the larger investment contributes its share to the higher cost of production. In large scale production, where expensive tin and copper materials are used, their increased cost becomes an important item.

These facts proved that the producers were entitled to an increase in prices but the question remained

What Constitutes a Just Price?

The farmer is entitled to a price which is based on the average cost at the farm, plus a reasonable profit. The average freight and the proper country and can charges (to be determined) should be added to this. Cost at the farm varies greatly because market costs of feed and labor are constantly changing and also vary greatly in the different localities. Several of the recent investigations are of no value for future estimates because they merely state the lump cost of feed and labor. The only satisfactory system is one which makes possible the determination of cost production under constantly changing prices and conditions. The following is a form of figuring costs which can be applied to practically all sets of prices and conditions:

	Quantity	Prevailing Market Price	Per Cow Per Year Total Cost
FEED:			
Concentrates (1) ..	2000 lbs.	.....	.....
Dry Roughage			
Hays (2)	3800 lbs.	.....	.....
Stovers	370 lbs.	.....	.....
Succulent Roughage			
Silage (3)	7000 lbs.	.....	.....
Pasture (4)			
4 months			
LABOR:			
Man labor			
Productive	127 hrs.	.....	.....
Handling milk	27 hrs.	.....	.....
Hauling milk	28 hrs.	.....	.....
Managerial	36 hrs.	.....	.....
Total 1.....	218 hrs.	.....	.....
Horse labor			
10 hrs. (5)			
OTHER COSTS:			
Depreciation on cows	12%	.....	.....
Interest on cows	6%	.....	.....
Bull service (6)			
Use of buildings (7) ..			
Bedding			
Use of equipment (8) ..			
Miscellaneous			
Total costs			
RETURNS:			
Increased value of herd			
Manure			
Calves			
Total credits			
NET COSTS:			
Managerial ability, business risk and dairy overhead 10% of net cost			
Final cost per cow per year.....			
Production	lbs.		
Cost per cwt. production—net cost			

NOTES.

1. Concentrates are charged at market price plus cost of hauling.
2. Hay is charged at market price minus cost of baling and hauling.
3. Silage is charged at market price of corn and the stalk plus labor cost.
4. Cost of pasture depends on value of land and quality of pasture.
5. Horse labor includes the hauling of milk to station.
6. Cost of bull service is figured by allowing for depreciation and interest on the animal, plus the cost of housing and feeding.
7. Use of buildings is charged on basis of depreciation, interest and cost of repairs on all buildings used for dairy purposes.
8. Charges for use of equipment is based on figuring depreciation, interest and repairs on all equipment used in productive work, such as dairy machinery and farm fences.

Prices at Different Seasons

The cost of production varies greatly during the different seasons of the year. In the summer with cheap pasture, as in New England, milk can be produced at a much lower rate than during the winter when more concentrates must be fed. This situation has usually resulted in a great surplus of milk during the early summer months.

It is desirable, however, to have a normal supply of milk at all seasons so that more winter dairying should be practiced. This not only would insure an adequate supply to our large cities but it would distribute farm labor more evenly thruout the year.

The following has been suggested by the Illinois Experiment Station: Adopt a percentage deviation by months from the average cost of production during the year. Thus for example:

Months.	Deviation.	Months.	Deviation.
	Percent		Percent.
January	119	July	83.7
February	114	August	94.2
March	106.5	September ..	96.7
April	94.2	October	109.7
May	73.2	November ..	118.3
June	70.6	December ..	120.3

Then figure average yearly cost per cwt. as follows:

ITEM.	PRICE.	COST.
Grain .....44 lbs. @
Silage .....188 lbs. @
Hay .....50 lbs. @
Bedding .....39 lbs. @
Man labor .....2.42 hrs.
Total cost	

Assuming production to be \$3.50 per cwt., then milk would sell in June at 70.6 per cent of \$3.50, or \$2.47, while in December at 120.3 per cent of \$3.50 it would sell at \$4.21.

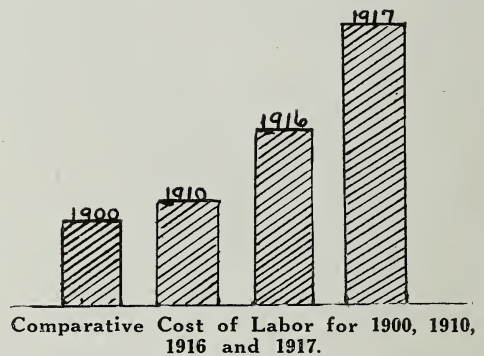
What the Farmer Can Do

The preceding discussion has dealt with the cost of production in general. Average farmers, average cows and average prices were considered so as to be fair to both the producer and the buyer. But the farmer can lower the cost of production by higher individual production, cooperation, economic feeding, cow testing associations, moderate investment and better management.

Assuming cost for producing milk to be \$200 per year, a 5000-pound cow produces milk at \$4.00 per cwt., a 6000-pound cow produces at \$3.33 per cwt.

and a 7000-pound cow at \$2.85 per cwt. The annual cost per cow is higher in New Hampshire than in Vermont by \$16 but New Hampshire produces milk \$0.13 cheaper per cwt. because of higher production. But **higher** production does not always mean **economic** production. In Connecticut, production is 6009 pounds while in Vermont it is only 5328 pounds but it costs \$0.44 more to produce 100 pounds of milk in Connecticut because of a higher feed cost.

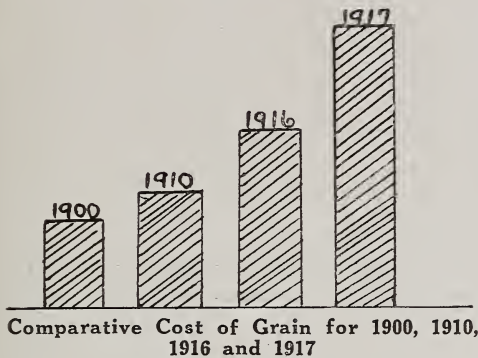
Costs can be lowered by cooperation in the use of bulls, machinery and in



the hauling of milk, grain and feeds. The dairy farmer must learn to use cheaper feeds and make them more palatable. A farmer in Delaware County, Ohio, is cutting his hay and mixing it with other ground feeds to make it more palatable with the result that his feeding cost has decreased 25 per cent. More consideration should be given to cheap sources of protein such as clover, alfalfa, soy beans and pasture.

The dairy farmer should have some cash crop which will insure a good rotation and thus utilize man and horse labor to the greatest advantage and assure crops above the average production. This will also increase the size of business making possible the most economic use of labor-saving machinery and apparatus. At all times the in-

vestment in buildings and equipment should be low but consistent with sanitary requirements and durability.



What Dealers Can Do

The problem of the dealer is vitally the problem of the producer and the following are suggestions for the improvement of this side of the question: keep accounts to show the cost of handling and detect leaks or waste; standardize the distribution; use the ticket system to save time in delivery; make a more economic use of by-products.

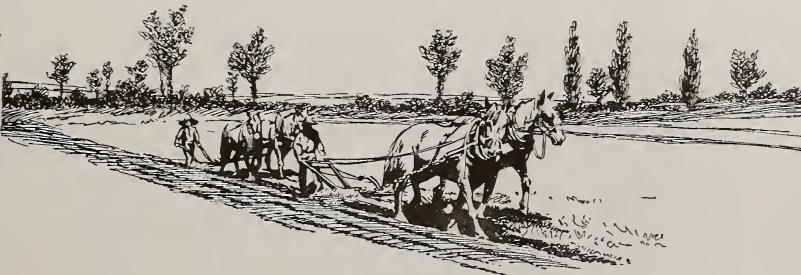
Skimmed milk, marketed as cottage cheese or as fermented milk, will net the farmer from \$1 to \$2 per hundred pounds of whole milk. The yield of cottage cheese averages from 15 to 18 pounds per hundred pounds of skim milk. This will sell at from \$1.20 to \$1.60 which will net from \$1.00 to \$1.40. The United States Department of Agriculture reports that one pound of cottage cheese is equal in protein

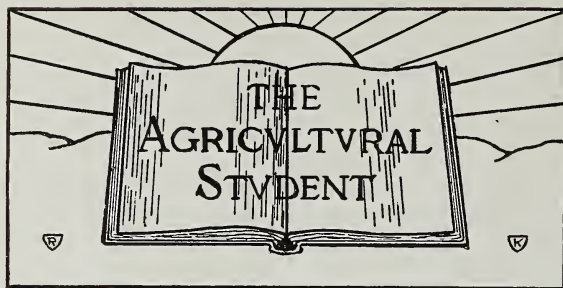
value to 1.27 pounds of sirloin steak, 1.46 pounds of fresh ham and 1.18 pounds of pork chops.

While I was with the Gramana Dairy Company at Philipsburg, New Jersey, 80 quarts of skim milk were marketed daily in the form of fermented milk. With a little advertising a ready market was established for this wholesome food and healthy drink. An annual net saving of over \$1000 was made on this alone.

Conclusions

Since many farmers have been producing milk at a loss in many cases due to the great increase in the cost of feed and labor, they are justified in asking higher prices for their products. But farmers can lower this cost of production by weeding out the boarders and by more economic feeding. Again it is the duty of the dealers to standardize distribution and make more economic use of the by-products. This is not the time for friction between dealers and producers but rather for systematic cooperation in a campaign for educating the public to the value of dairy products in the human diet. Altho this is regarded as a critical period in the dairy industry, in future years we will look back upon this as a period of great progress because it has brought about effective organization of producers.





OF
OHIO STATE UNIVERSITY
A MEDIUM FOR EXCHANGE OF IDEAS BETWEEN COLLEGE AND FARM

Published by the Students in the College of Agriculture.

Established 1894.

Subscription Price, One Dollar the Year

Entered at the Postoffice at Columbus, Ohio, as Second Class Matter.

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COLUMBUS, OHIO, MARCH, 1918.

EDITORIAL

RURAL SOCIAL LIFE

When our forefathers traveled across the Alleghenies and down the Ohio into the western states, a rural social life was practically unknown. The farm houses were so far apart that each family lived alone in their home cut from the forest, and association with other people was a rare occurrence. But when the population became more dense, the spelling schools, quilting parties, log rollings, and singing schools introduced a new phase of social life which gradually died away in later years.

Today, this has changed and the rural social life is reviving from its dormant stage of a few years ago. No longer do the country people enjoy the pleasures that existed in the time of their parents but these are being replaced by

other means of enjoyment which are better adapted to the rural life of today. The community centers, usually the school or church, are caring for the social as well as the educational and religious side of life and thus enlarging their duties and influence.

The greatest drawback in the development of many communities is the existence of "little groups." Too often the results of this condition are noticed in the rural schools and churches. One faction wants to do a certain thing while the other group would rather do something that is "much better" and so the fight continually exists about what shall be done, resulting in the accomplishment of nothing. This lack of team work always drags the community down and prevents its proper and natural development. No community

will ever get ahead until it gets behind something and the community includes each and all living in it.

CLEAN GRAIN AND CLOVER SEED

At this time when so much attention is being given to the testing of seed corn there is much danger that farmers will forget about the other small seeds such as oats, clover and timothy. While it is not usually the custom to test these seeds, it does seem that they should always be properly cleaned before sowing.

It is impossible to grow such seeds absolutely free from impurities and if they are cleaned the chances of success with the crop are much improved. Oats always contain small or cracked grains, weed seed and dirt which will cause a reduced crop as well as spread the growth of undesirable plants. Clover seed, being more certain to contain weed seed, should be carefully cleaned to remove such seeds as well as the shrunken clover seed. This work can be done while it is unfit to work outside and then the seed will be ready to sow at the proper time.

THE DECREASED REGISTRATION

Many reasons have been given for the fact that less than 3500 are now registered in the Ohio State University more than 1200 less than the first semester. There seems to be two outstanding reasons for this large decrease.

In the first place a large number of the students have enlisted in various branches of the service since the beginning of school last September. In addition to these, several have answered the call of the draft and are now in training camps or "over there" with those who had enlisted.

The labor problem has also caused

many to stay at home, especially on the farms where help cannot be secured. To those who were in such circumstances it seemed to be the proper thing to stay at home and help plant the crops rather than to remain in school. Either of the above reasons should be sufficient and those who are not back in school surely thought that they were doing the best thing. Even though they are not going to class with us and we no longer work with them in the laboratories, the work of each depends upon the work of all and each must do his part well.

To those who have remained at home to help in the production of food we extend our hand and may you be successful and happy in your efforts. We wish also to renew our friendship with those who have joined the colors. We hope that you may be happy in the service which you are giving and that you may each share in the glory of a victory which will remove the stain of war forever from the earth.

MAKING THE SPRING DRIVE

While the cold March winds are driving the snow from place to place and the occasional sunshine is showing signs of coming spring the farmer is thinking of the work that must soon be done in the fields.

That work must be done with less labor than before and therefore it is necessary to have more and better plans for its efficient accomplishment. It is not wise to try to farm more acres than can be harvested and one should consider the harvest time before doing the planting. No man shows patriotism by wasting energy in the production of crops which cannot be saved. It is much better to take good care of a little than poor care of too much.

In this planning for spring work one

must not forget the horses that must do a great part of the labor. The winter has been so severe and feed so scarce that the horses on most farms are not in the best physical condition for spring work. They will need to be better prepared for that spring drive to feed the world and lick the Kaiser.

Repairs for machinery should be fitted now and seed can be cleaned while the ground is unfit for work; seed corn can be tested any time and the incubators should be gotten ready for the first hatching. There are many things that must be done in preparation for the spring work but after the work is started will be too late to prepare for it.

FUTURE LIVE STOCK INDUSTRY

The present shortage of meat animals offers the largest opportunity to live stock men that ever has been known. It is not only an opportunity for advancing his business but for patriotic service to his country. Europe has found it necessary to reduce her herds to get meat and fat and the pasture lands are now being used for grain production. Labor has been so scarce that they could not produce grain to feed live stock.

As a result of all this, the depletion of live stock in Europe has been appalling. It is conservatively estimated that the total decrease in live stock for the world has been over 115,000,000 head since the war began. Since Europe must have more meat and fat to feed her armies and to make her ammunition, it must largely come from the United States.

The conditions which have caused this decrease in live stock will continue to exist and become more acute as long as the war continues. Even tho

peace should come immediately, the demand for live stock will not be changed since the supplies of all nations are depleted and it is possible that more meats and fats will be eaten when the people are not under enforced conservation. With these points in mind, the live stock breeder can plan for a profitable enlargement of his business and rely upon a greater demand for his products.

EXPERIMENTING ON THE FARM

This is not the spring for farmers to undertake any kind of experiment on their farms with new ideas which are supposed to be money making and capable of producing large crops. In fact now is the time when the advice of experiment stations and agricultural colleges should be given greater attention than ever before.

These agencies have so much valuable information for the farmers that they need not go further for help. Experiments with new machinery, new seeds, or new methods of any kind ordinarily require more time and labor than usual hence it does not seem wise for a farmer to do these things unless they have been recommended by the above authorities.

Labor is too scarce, land is too valuable and seed is too badly needed to be used in any new enterprise the results of which are unknown. These must all be used in the production of maximum crops while the world is at war. The machinery which has given good service, the fertilizers which have proven most effective, the methods of planting which have secured best results and the spraying materials that are known to be satisfactory are the ones that should be used in this gigantic task of feeding the world.

Home Economics Department

SELECTING SILVER AND CHINA

DISHES and table silver should be chosen for simplicity and beauty of design, for usefulness and durability. In selecting dishes and silver one is apt to be influenced by the prevailing fad and consequently get something that one soon dislikes. It is best, if possible, to have the dishes of the same design, simple and conventional. China, elaborately decorated, especially when hand painted and with scalloped and scrolled edges is not good taste. A single band of gold, blue, or certain browns makes an attractive pattern. The handles of the cups and serving dishes should be strong and the pitchers should be selected which pour neatly. Some china withstands knocks and jars better than others and this is an important point to consider. If the design selected is a standard pattern, broken pieces may be replaced.

The glasses should be of medium weight and plain or with a small amount of cut work or etching. A glass not easily upset should be selected and one wide enough to be cleaned easily.

Silver having a simple design should be chosen for two reasons; it is more beautiful and easier cleaned, and clean, polished silver is essential to a well set table. It is possible to get plated silver in as desirable patterns as the sterling and unless one can afford sterling, the triple-plated silver serves the purpose well.

Odd dishes may be used, if desired, for such things as bread, pickles, olives and jellies. These should not be elaborate cut glass or extravagantly painted dishes but if they are simple in de-

sign and shape they may add to the appearance of the table.

BERTHA DUNN, '18.

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MOTOR CARS FOR WOMEN

UNLESS the farm woman is rather mechanically inclined for motor cars she should not attempt to operate them. However, if she desires to learn to drive there are a few conveniences that make driving a pleasure.

A self-starter should be installed on all cars that women drive. This makes starting easy and eliminates the possibility of injury from cranking. A self-starter aids particularly when the engine becomes stalled in a dangerous place or on a steep hill.

A conveniently arranged car is also essential for women drivers. This means freedom to operate all the levers and pedals and these within easy reach. A cushion placed at the back makes driving easier; also a starter operated by hand is more convenient because this allows free use of the feet in working the clutch and brake.

There is no reason why the farm woman should not drive at night. A simple lighting system aids materially and I have found a single spot light of more value than the ordinary head lights. The dash light is valuable in starting a machine but should be turned off while driving as it has a blinding effect.

Farm women can drive in winter providing the starter is kept in good condition. For cold weather the use of a primer will make starting easy and also help when the engine cannot be started quickly even in warmer weather.

Tire troubles are the worst that women drivers may experience. However, I have found that extra wheels are more convenient and easier to change than the rim form when punctures and blowouts occur. Good tires kept at the proper inflation give the least trouble.

I see no reason why the farm woman should not use the motor car as much as the city woman and the more she realizes the pleasures of driving the more mechanical she will become with reference to driving.

BERTHA DUNN, '18.

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THE SPRING STYLES

GENERALLY the "spring bonnet" is the first article of wear that comes into our minds at the opening of the spring season. It is a bonnet this season in the true sense of the word, a poke bonnet which takes us back to grandmother's day. They are being worn in all the dainty shades and are trimmed with flowers, velvet streamers and fruit effects.

The walking hats are shorter in brim and in the back but wider in front; the toque and close fitting oriental turbans are quite adaptable to windy spring days.

Quilted and foulard hats this spring are really war hats. They are new recruits and deserve our attention because we are asked to wear foulards and to use up the silk remnants. The straight and rather severe military lines are not felt so particularly in the spring bonnets as they were last season and have given way to the dainty spring creations. The use of the quilted and foulard effects keeps wool from entering the spring hat and hence is a patriotic move.

For the spring frocks and suits the tailored effect is noticeable and some

show variations of the belted pocketed model. The smart thing this season, however, will be the tailored frock. The backs of the dresses will be straight and loose while the fronts will be belted or draped in a tighter fashion. The afternoon frocks show the tighter front with the loose panel backs. The tunic seems to hold a distinct place and may be used in the back, front or over the hips.

Necessity for textile conservation will give us the frocks in the combination of materials and no doubt will hold the straight and simple lines. Then, too, we find the dress entirely of silk foulard patterns which will be used for gowns, suits and tailored frocks.

BERTHA HOLTKAMP, '18.

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CHICKEN FEED PUDDING

CHICKEN feed pudding, a dessert that is quite palatable can be made under the present rules of economy and saving of foodstuffs; it will in a way solve the substitution problem for table desserts. It is made by using 1 cup of dates cut in small pieces, 1 cup of chopped nuts, 1 cup dried bread crumbs, $\frac{1}{2}$ cup of sugar, 1 cup of milk, 1 teaspoon of baking powder and a pinch of salt. Dissolve the sugar in the milk, add the nuts and dates and then the bread crumbs in which the baking powder and salt has been mixed. Bake in a moderate oven for 20 minutes. Cool and serve with whip cream.

When dates cannot be secured or if the price prohibits, prunes, raisins, figs, and other similar fruits may be substituted. In the place of sugar corn syrup, honey or other syrups can be used, the amount depending on the kinds of fruits used as some have a higher per cent of carbohydrates than others.

The cost of the pudding, providing all the constituents have been purchased, will amount to 50 cents but where the nuts, milk and syrup can be secured by the country housewife it will be about 25 cents. The recipe will make from 10 to 12 servings.

Chicken feed pudding will keep from 2 to 5 days if kept in a cool place and hence makes it possible for the housewife to have a good supply of the palatable dessert for serving in short notice. It is particularly adapted for company dinners in the country.

RUTH CHRISTEN, '19.

o o o

CORN MUFFINS

Many housewives consider that graham bread or whole wheat bread is the bread for wheatless days; but graham really contains more of the original wheat grains than white bread. The real patriotic substitute for wheatless days is corn bread or muffins. The following recipe is tested: 1 cup cornmeal, 1 cup flour, 3 teaspoons of baking powder, 1 tablespoon sugar, 1 tablespoon melted butter, $\frac{1}{2}$ teaspoon salt, $\frac{3}{4}$ cup milk, 1 egg. Mix and sift dry ingredients, add the milk gradually, then the well-beaten egg, then the melted butter. Bake in a hot oven in greased gem pans for 25 minutes.

NORMA BRADLEY, '19.

o o o

Time and energy can be saved in dishwashing if the pan is on the right side and the draining basket on the board at the left of the sink. The dish may be held in the left hand while being washed and is placed to drain without reaching across and changing it to the other hand. However, in the majority of homes the dishwashing is done from left to right. It is only natural to keep the dishpan under the hot

water faucet which the plumber usually puts at the left unless ordered to do otherwise. Keeping this point in mind in changing kitchens or sinks will save hours each week.

BERTHA HOLTKAMP, '18.

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The shine can be removed from black garments by rubbing the spots with slices of raw potato.

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To save the yolk of an egg make a small hole in the shell of the egg and let the white run out. Then wet a small piece of paper and place over the shell hole to seal it. The yolk will keep fresh for several days until needed.

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In roasting dressing for a piece of meat, place the dressing in a sack or tie up in a thin white muslin and place in a roaster beside the meat. This will keep the dressing from mixing with the meat juice which is wanted for gravy.

o o o

For children who are hard on stockings cut out a patch from the top of an old sock and sew on the worn part or darn the heel or toe carefully with darning cotton. The stockings will then wear much longer.

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In cooking old fowl or any tough meat add 1 tablespoon of vinegar to the water in which the meat is cooked. The vinegar will dissolve the connective tissue and cause the meat to become more tender.

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For dust mops try worn out stockings cut into $1\frac{1}{2}$ inch strips and place these in the mop sticks. Moisten with a little kerosene.

NORMA BRADLEY, '19.

SHALL THE TRACTOR GO ON THE SMALL FARM?

MARION V. BAILEY, '18

HAS the tractor a place on the small farm? This question has arisen in the minds of many farmers and to many it has never been satisfactorily answered. The tractor manufacturers are trying to demonstrate to farmers that the tractor has a place on any sized farm while many farmers believe that the large farm is the only place for the tractor. The tractor, as it has been used in the past has belonged only on the large farm with large fields but since the manufacturers have begun making them in smaller sizes the farmers can now use them on smaller farms. In some communities the farmers have gone "tractor crazy" and in many cases expert salesmen have placed them on farms where they should not have been placed.

Up to the present time, the main work done by tractors is that of plowing and in the case of the large farm there has been enough of this to make an investment in a tractor a profitable one. In the case of the small farm there has not been enough of such work to make a tractor investment look inviting. The tractor on the farm of over 250 acres is usually large enough to be used for other purposes than plowing such as threshing, road work, silo filling and hay pressing. This all helps to make the investment more profitable. On the other hand the small tractor on the small farm is not usually large enough to be put to such uses and hence must stand idle a large part of the time thruout the year.

Mr. H. J. Barclow of Lockport, Ohio, uses a 15-30 tractor on his 250 acre farm. This tractor is large enough to

be used for road work, silo filling and hay pressing and Mr. Barclow improved his opportunitoes for using it for such work thus netting him \$300 in one season. It is evident that this not only paid interest on the investment but yielded a good profit. He then has his tractor for plowing at practically no cost other than that of operation. It is also of interest to note that the tractor has replaced one team on his farm.

In this same community another man, Mr. E. E. Edwards, is operating a small 8-16 tractor on a 125 acre farm. This tractor is used for plowing and occasionally for sawing wood but it is too small to furnish power for work such as Mr. Barclow performs with his tractor so that in the fall and winter the small tractor is bringing practically nothing to its owner. This makes power plowing much more expensive than if the tractor could be used for something when not being used for tillage operations. Before purchasing this tractor Mr. Edwards used 4 horses to operate his farm. Evidently the tractor has not taken the place of any horses for he still keeps his two teams.

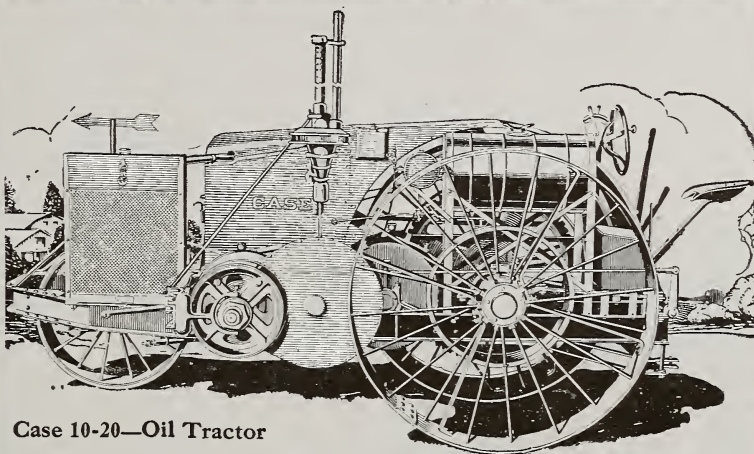
If these two examples can be taken as any sort of criterion it seems that unless the tractors are made so that they can be used more generally they will never find a profitable place on the farm of less than 175 to 200 acres. Whenever the tractor can take the place of some of the horses and do some of the work besides plowing they can be profitaby used on the small farm.



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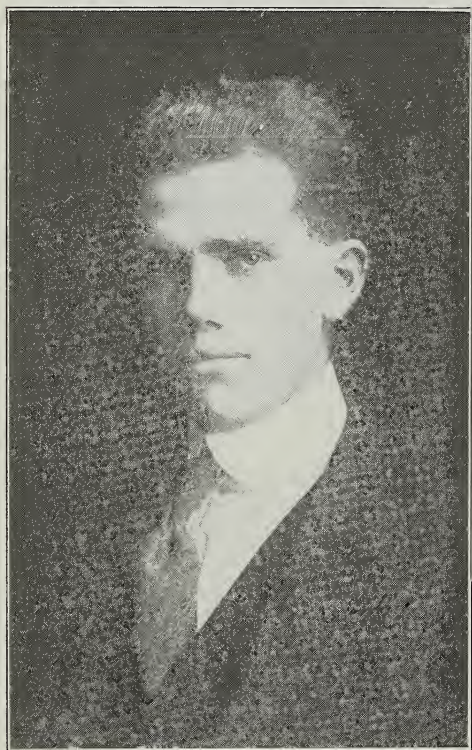
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Alumni What The Bus Grads Are Doing

It was with the greatest surprise and sorrow that the faculty and students of the college of agriculture, upon re-



J. R. Hinman

turning to school for the second semester, learned of the untimely death of J. Reed Hinman at his home at Ravenna, Ohio, on Feb. 2.

Reed and his father had cut a large tree which fell across a slight eleva-

tion and as the top of the tree was quite heavy, the trunk was raised into the air and supported by the limbs. His father went to the house a few minutes before dinner and left Reed to cut off a few limbs. It was while he was there alone that the tree turned over and a little later Reed was found crushed to death beneath the tree.

Mr. Hinman was a senior in the college of agriculture, having completed the first two years of his college course at Ohio Wesleyan. He was prominent in numerous student activities and was a friend to all of his fellow students. Altho he will be greatly missed, his life will still remain as an example and inspiration to all those who knew him.

George Livingston, '09, is a specialist in grain marketing with the Bureau of Markets at Washington, D. C. He is making a detailed economic study of primary and terminal marketing of grain and hay together with its sale to the consuming public. This study which includes cost of marketing, storage, warehouse practices, mixing, scalping and future trading is being made in order to obtain information useful to the various agencies engaged in the marketing and distributing of these products and to offer suggestions for the improvement of the service.

Selwyn B. Ewing, '17, is teaching agriculture in a high school at Worthington, Minnesota.

Glenn Carrothers, short course '17, is now a lieutenant with the Thirteenth Training Company at Camp Sherman, Chillicothe, Ohio.

Harold T. Weed, short course '17, is with Company K of the 329th Infantry at Camp Sherman.

Earl Chenault, '15, who is an assistant in the Bureau of Markets at Washington, is now in charge of a temporary office located at 403 Exchange

SEED CORN

For the first time since we went into the business, we are worried because we fear that our stock of seed corn is too small for this year's requirements. It was not our fault, because we had out a very large acreage but premature frosts and hard freezes eliminated large blocks that were meant for seed. We have a moderate supply of every stock quality. Corn that will germinate 98 per cent. This corn is all pedigreed, includes our famous Improved White Cap and 120 Day Yellow, both of which have taken a prominent part in Ohio, and winning state contests. Also limited stocks Minnesota 13, the best very early corn we believe that has ever been introduced into the state.

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The Waltz, Two-Step and the late modern dances taught in one term.



Dance Correctly.

Building, Memphis, Tenn. This office is cooperating with another office of this Bureau at Fort Worth, Texas, in rendering assistance in securing feed for the drouth stricken area of Texas where many thousands of cattle have starved to death.

William Stevens, ex-'20, is a mess sergeant for the Tenth Company of the Third Training Battalion at Camp Sherman.

Hugh G. MacMillan, short course '17, is a corporal in Company M of the 329th Infantry at Camp Sherman.

George Dignam, short course '17, is a sergeant with Company F of the 330th Infantry at Camp Sherman.

Francis L. Morrison, '16, who was an assistant in the department of rural economics, is now with the 322nd Field Artillery at Camp Sherman.

Luke Cooperrider, '17, is in Y. M. C. A. Building No. 70 at Camp Sherman.

Arthur J. Copeland, '15, who formerly had charge of the agricultural department of the Marion Normal Institute at Marion, Indiana, is now assistant in grain marketing with the Bureau of Markets, United States Department of Agriculture, located at Washington, D. C. During the past year he has been engaged in investigational work traveling over the eastern half of the United States relative to

establishing a market news service on grain. He has assisted in the opening of branch offices for the government in several of the large market centers. At present he has charge of the correspondence from the Washington office and is assisting in directing the ten branch offices of this bureau which issue bi-weekly market reports on grain and hay.

Clayton D. Wiles, short course '17, is a corporal in Company L of the 329th Infantry at Camp Sherman. He was married on Jan. 1 to Miss Ruth H. Burkett of Medina. His wife will continue teaching in her home county "until the war is over."

Eugene W. Budd, '17, was married early in February to Miss Alice M. McNeil of Columbus. Mr. Budd was on the staff of The Agricultural Student last year and is now teaching agriculture in the high school at Valley City, Ohio.

Ray Donnelly, special '16, is teaching dairying to the winter course students. He has been farming at home.

Russell R. Pearson, '16, is teaching agriculture and other sciences in Bethany College, Bethany, West Virginia.

Harry O. Stout, '15, is teaching agriculture and science and coaching athletics in the high school at Fremont, Ohio.

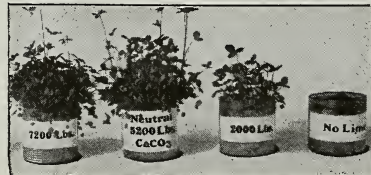


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William Montgomery, who finished school at the end of last semester, is now teaching agriculture in the vocational high school at Worthington, Ohio.

DECREASED ATTENDANCE

Owing to war conditions, the attendance at the University has fallen from 4675 on March 8, 1917, to 3447 on February 14, 1918—a loss of 1228. The loss is distributed thru all of the colleges and its proportions are indicated by the loss of 312 students in the college of agriculture and 156 in the college of engineering. Nearly all of these are going into training for the war or are engaging in the war-essential tasks at home.

MEAT CUTTING COURSE.

Attention to better meat supply for the farmer is the real aim of a new course in Animal Husbandry which is being given this semester. The course is not designed to make butchers out of the boys.

The stock which is slaughtered is raised on the farm and consists of veals, lambs and hogs. After the animals are killed, the carcasses are hung in the Ohio Union cooler until they are chilled which takes from 36 to 48 hours. Then they are taken back to the Judging Pavilion and cut up into the retail cuts of meats. Records are kept by the students of all the various parts of the animal such as the weights of the head, hide, feet and blood. The values of the various cuts are based on the Columbus markets.

At present the carcasses are taken to the Ohio Union and served to the aviators. From 8 to 10 each of veals, lambs and hogs will be butchered this semester.

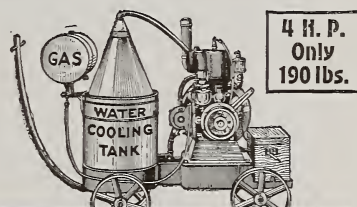
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MARCH NEWS FOR SCHOOL AND FARM

SALES aggregating over \$26,000.00 for the past year is a record of which the Ohio State University Dairy can well be proud. Whole milk, skim milk, cream, cheese, butter, ice cream, and ice constitute the products which have brought the figure to such an astonishing point.

The milk used for bottling comes from two herds: Ohio State University and Bert Smith's of Hyatts, Ohio, both tuberculin tested. From 300 to 400 pounds of Ohio State milk and 400 to 500 pounds of Smith milk are received daily. Some is separated while at least 560 pounds are bottled each day, the process being started about 12:30 and the finished product goes out on the route by 3:15. Deliveries are made as far south as Fifth Avenue

and as far north as Eighteenth Avenue at the price of 13 cents per quart and 7 cents per pint.

A portion of the University milk is separated at the barn daily so as to supply skim milk for the calves. The excess skim milk together with the cream resulting from the separating are delivered to the dairy department for use in the laboratory. The cream is standardized to 20 per cent and 40 half pints are bottled daily for the route. One-half pint of 20 per cent cream sells for 12 cents.

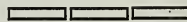
At the present, about 175 pounds of milk are received from the Fairmont Creamery on each of five days of the week. This is made into pimento, cottage and various hard cheeses by the students of the laboratory. Swiss

Springing Some Spring Styles

Easter has always been New Clothes Day—and Good Clothes Day.

This year the question is how to be **sure** the new Clothes are **good** Clothes.

And one **certain** way is to see the new things we offer in Hand Made-to-Measure Clothes. Fabrics are pure; Stylings are down to the minute; Fit is guaranteed. For good Clothes for Easter let us make you a "So-Different" Suit.



Bradley, The "So-Different" Tailor

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CITIZENS 16796

cheese sells for 35 cents per pound. American cream 35 cents per pound, cottage cheese 10 cents per one-half pint and pimento cheese 15 cents per glass.

Practically all the butter made by the dairy department is churned from cream which has been shipped in from outside sources, from 10 to 13 farmers sending in their cream. The price per pound varies according to the price paid per pound of butter at the home of the shippers. Churnings are made on Tuesdays and Fridays, usually being done by the students of the butter-making classes.

Buttermilk has grown to be one of the most popular products of the dairy department. On each churning morning the laboratory is crowded with anxious patrons waiting patiently for the highly prized food. To satisfy the host of

customers, the dairy department has limited the amount for each and still many are turned away.

Ice cream-making is carried on entirely by the students and after their appetites are satisfied seldom any of the product remains for sale. During the summer vacation, ice cream orders are filled regularly and occasionally orders are filled during the school year. Ice cream by the quart brings 35 cents but brick cream sells for 45 cents per quart and 25 cents per pint.

The ice which is used at the dairy as well as that which many other departments on the campus use, is all manufactured in connection with the dairy. A dynamo runs the ammonia compressor, which process lowers the temperature of the brine to a point where the water is frozen in solid cakes.

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products and the amount of each which have been sold in the past year: 75,000 quarts of whole milk, 900 gallons of skim milk, 800 gallons of cream, 27,500 glasses of pimento cheese, 500 glasses of cottage cheese, 350 pounds of hard cheese, 35,275 pounds of butter, 200 gallons of ice cream and over 250,000 pounds of ice.

"Farm Diary" is the title of a new book published by E. H. Thomson of the United States Department of Agriculture. This book contains a blank page for each day of the year upon which can be kept the receipts and expenditures as well as the man and horse hours. In the back are tables for summaries of all crops and livestock bought and sold, lists of machinery, crop records, feeding and breeding records, the amount of labor and all other records that are desirable to have.

The book will be especially valuable to farmers in making out their income tax reports and to provide a means of knowing the essential records so as to make the average farmer a successful business man. The book has been published as a result of a long series of experiments conducted by the Department of Agriculture and can be used by county agents, extension workers or for a laboratory manual in farm management. 410 pages, \$1.50. World Book Company, Yonkers-on-Hudson, New York.

TOWNSHEND ELECTS OFFICERS

The following men have been elected to office in Townshend Agricultural Society for the present semester: president, Richard C. Fisher, senior; vice-president, James A. Howenstine, junior; treasurer, George F. Johnson, junior; secretary, Lee C. Prickett, sophomore; censor, Harold G. Kenestrick,

junior; sergeant-at-arms, Ray C. Spilker, sophomore; director of music, Lester N. Geiger, senior; Carl R. Arnold, Lester N. Geiger and Volney G. Applegate compose the executive committee.

AN EARLY COMMENCEMENT

Commencement day will be Tuesday, May 28, instead of June 18. Altho this is three weeks earlier than planned, 12 days are gained by the annulling of the Easter vacation with the exception of Good Friday, thus making it possible to do all of the work of the semester. The purpose is to release students for agricultural and other war work at home and to give greater accommodations at the University for the aviation students whose number will be increased by May.

COLLEGE PUBLICATIONS.

The Agricultural Extension Service published twelve bulletins and fifty-seven circulars, besides various other printed matter during the year ending June 30, 1917.

The bulletins are written by the specialists of the department and are printed to meet the popular demand for information concerning the subjects treated. These bulletins treat of various subjects related to farm animals, soils, farm crops, horticulture, dairying, farm mechanics, poultry, home economics, and rural economics.

These bulletins are sent out to the people who have requested that their names be placed on the mailing list to receive them. These various bulletins have a mailing list ranging from 5,000 to 9,000, but the total mailing list consists of about 30,000 names. The bulletins may be had by anyone who asks for them.

The circulars are prepared and printed to promote some extension ac-

Why 31,500 Farmers Breed Jerseys

OVER 31,500 people in the United States own and breed pure bred registered Jersey cattle, making them the most popular of all breeds. These dairymen have found Jerseys the most economical producers of butter fat and solids. In testing associations, Jerseys head the list for *net profit* produced. Jersey milk averages 5.36%—highest of all breeds.

Jerseys combine beauty of line and form with persistent milk production. Begin earning early and keep it up for many years. They're at home in all climates—hot or cold—and thrive on all feeds. Jersey bulls are highly potent, often doubling herd production in a single generation.

A postal brings our interesting book, "The Jersey Cow in America."

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Seed Corn on Cob

As long as limited supply lasts, offer hand picked, specially selected 1917 crop ear corn, either white or yellow, for seeding purposes, from good producing corn, that was fully matured before frosts, gathered early and carefully stored. Buy your seed corn on the cob, where you can see each ear and know what you can expect to grow. Also order early to avoid delays in transportation. For particulars write

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tivity. They consist of the annual report, announcements of farmers' institutes and extension Schools, and the boys' and girls' club work literature. However, the circulars are not for general distribution like the bulletins.

The other printed matter consists of the Ohio Farm Bureau Monthly, the Bi-Weekly News Letter, the Correspondence Courses, office supplies and miscellaneous printing.

The bulletins published since July are: "Selection and Care of Seed Corn," "Sixteen Percent Acid Phosphate," "Agricultural Ground Limestone," "Serving of Meals," "Meat Substitutes," Utilization of Food, Recipes," "Outline for Teaching Food Conservation," "Organization of the Farm for Profit," "Farmers' Clubs," "Management of the Brood Sow and Her Litter," and "Judging Beef Cattle." Those bulletins now in preparation are "Farm Spraying Machinery," "Gardening," "Corn Culture," and "Bread."

FERTILIZERS AND LIME.

Never in the history of the country has it been necessary for the farmer to give serious consideration to the question of fertilizers and lime. That there is a need for both, there is no doubt. Care must be exercised in the purchase of either so that only reliable products are bought. Order from reliable companies and get orders in early so as to give time for products to reach you in good time in spite of the unavoidable traffic congestion.

Order those forms of fertilizers which are most concentrated so as to cut down expense in transportation. With all the world clamoring for more food there is little doubt but that the application of fertilizers and lime will yield larger returns than at any time in the past.

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HIGH AND WARREN

extends to the students of Ohio State University and their friends a most cordial invitation to attend the Friday evening dancing parties given for their pleasure and to enjoy the teachings of this select school.

CALENDAR FOR 1917-1918

Class Nights—Adults, every Monday, Wednesday and Thursday evenings, also Monday afternoon at 3 o'clock and Friday at 6:30.

Assembly Nights every Tuesday, Friday and Saturday evenings. Orchestra music.

Friday evenings for young folks.

Private lessons by appointment.

Children's Class—Seven to 15 years of age, every Saturday afternoon at 2 o'clock.

Information given cheerfully by phone.

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ATTEND YOUNG FOLKS' ASSEMBLY EVERY FRIDAY EVENING.

Special Dancing Parties: March 17, April 1.

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The Color that does not affect the Finest Flavor or Aroma of first-class butter.

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HURRY UP—Grind and Spread Valuable LIMESTONE NOW!

Important to Start at Once to Double Crops This Year

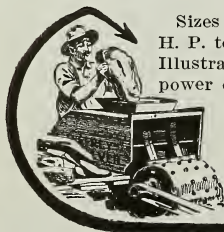
Investigate now just how easily you may quickly have the right capacity Jeffrey Lime Pulver working at big profits for you.

Enables any farmer or planter to grind limestone right on the farm at the rate of from 1 to 7 tons per hour. Rock can be fed weighing 60 lbs. or more, and instantly reduced to dust, or crushed for road and concrete work. Portable—every machine guaranteed.

GOVERNMENT ADVICE

Is all very urgent that limestone be used to increase crops, especially this year. Don't delay. Write for facts on

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Sizes to suit engines from 8 H. P. to 30 H. P. Send today for Illustrated Catalog. Give Horsepower of your engine.

Jeffrey Mfg. Co.
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Live agents write.

FARM TYPEWRITERS.

The farm business correspondence should be carried on in a business like way. Neatness and legibility add greatly to the weight of a business letter and the typewriter gives a most efficient means of getting both in a letter. When a man receives a neatly typewritten letter from a farmer his first opinion is that he is an up-to-date and efficient farmer. There is certainly a place for the typewriter on any farm that has any special line of business whatever. Most new farm account systems and herd book records are of the loose-leaf or card index style which can be most conveniently filled out on the typewriter. A card index system of typewritten recipes for the housewife would be a thousand times more convenient than the old method of cutting recipes out of farm papers and pasting them promiscuously in a scrap book. There are many other ways in which the typewriter will be found useful on the farm and the subject is well worthy of consideration. Give it a trial, if you do not like it the typewriter will always have a good market value.

J. W. T. Duvell, '97, is with the Bureau of Plant Industry of the United States Department of Agriculture as technologist in charge of investigation work relating to fixing grade standards for grain. The investigations relate to harvesting grain and its proper preparation for the market; its handling, storing and grading on the farm, at country elevators and in the terminal markets; and its handling by transportation companies. The purpose is to encourage the use of improved methods of handling and storing and the production of better quality grain.

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Just in printer's hands—Catalogue showing breeding, description and price of **1917 FALL PIGS and BRED TRIED SOWS.**

Always Glad to See You.

MERIDEL FARM, BLACK LICK, OHIO

Where Good Sows and Good Boars Meet.

On East Broad Street, 9 Miles East of Columbus.

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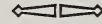
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KINDLING THE HEARTH FIRE

E. L. SHUCK

THE farm of today is a place of contentment and not of drudgery provided we make it so" is the keynote of the rural drama entitled, "Kindling the Hearth Fire," which was presented on the evening of Jan. 29 in the University Chapel to the farmers of Ohio. The entertainment was

wife is becoming worn out while the daughter is growing more and more dissatisfied and considers leaving home for more "agreeable" work in the city.

The girl receives a letter from a girl friend in the city begging her to come and live with her where "you can see



Cast of Characters

Standing (left to right): Tom C. Stone, Virginia Van Hynning, Andred W. Johnson, Audra Bickle, Ralph L. Bazler, Elizabeth Horn, Harold G. Kenestrick, Kofoid Allen, (seated) Henrietta Pendergrass, Joel S. Coffey, Vera Foster, Ethel Ralston, Sanford G. Price.

arranged and staged by the University Grange.

The play has its beginning in a country home on a busy day in the harvest season. Plenty of expensive and labor saving devices have been secured for the outside work on the farm and the proprietor is out of debt trying to make more money to buy more land. No modern conveniences have been provided for the farm women and the

life." This she finally does, and then falls into bad environment, becomes dissatisfied and longs for the simple life of the country where she can at least trust her friends. A city welfare worker persuades the daughter to return home and then gets the old farmer and his wife to install modern conveniences in the farm home. The daughter is now satisfied and later accepts the hand of a young farmer



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Don't sacrifice your livestock in order to have high priced grains to sell. Keep your breeding stock **and still!** have grain to sell, by raising crops big enough for both.

Increase Your Stock-feeding Capacity by One-half

Experimental tests have shown that grain and hay to fatten nine steers can be profitably produced on a fertilized field which, if unfertilized, would feed but six. A fertilized pasture maintained nine sheep where unfertilized it would maintain but five.

Use Fertilizer To Grow Bigger Crops

Keep your livestock and yet have surplus grains to sell. Write for our Bulletin, "Fertilize to Keep More Stock".

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Soil Improvement Committee
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BETTER CROPS FROM THE ONE HORSE FARM

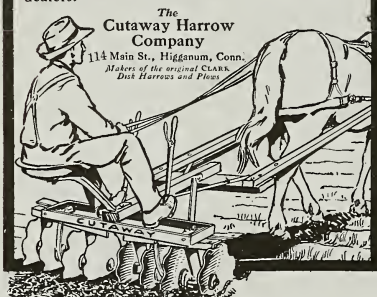
The small farm is just the place where compact and efficient work will be done by the

Cutaway One Horse Disk Harrows

Market gardeners, truckmen, florists and others will obtain greater yields and bigger profits from the use of these light draft 1-horse harrows.

In several styles and types; one at least, just what you need. Disks are forged sharp—dust-proof oil soaked hardwood bearings.

Send for book "The Soil and Its Tillage"—and our new catalogue; also names of nearest dealers.



The
**Cutaway Harrow
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*Makers of the original CLARK
Disk Harrows and Plows*

whom she had formerly rejected because he was "only a farmer" which would mean a life of drudgery to her.

The whole idea of the play was to show the farmers the need of modern conveniences in the farm home so that the children will be eager to remain on the farm and the hearth fire be made enjoyable to all. Music of various kinds filled the program between acts and the farmers, their wives and children left the chapel after two hours of entertainment only wishing that it would not have come to an end so soon.

MECHANICAL MILKERS.

It has been only a few years since the common opinion was that the mechanical milker would never be successful or practical. Due to the untiring efforts of some of our inventive men they are today the solution to the labor problem on the dairy farm. Their simplicity and ease of operation makes it possible for one man to do as much milking as three men formerly did. The milker has come to stay and the sooner the practical dairyman investigates the matter the sooner will his profits be increased.

SEED CORN TESTS.

The severe winter weather has made the problem of selecting seed corn in Ohio a serious one. Wallace E. Hanger, of the Agricultural Extension Department, who has been directing and conducting tests, says that out of 800 tests made from 50 counties at least one-third of the tests are below 10 per cent; one-half below 50 per cent. The tests have been ranging from zero to 98 per cent depending on the way the corn has been handled, the seed corn that was selected early testing the best while that in the shock is poor. The 1915 corn also tests low, while the



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A 50-gallon barrel of Scalecide free to any one who will suggest a *fairer* guarantee than that given below.

"SCALECIDE"

As proof of our confidence and to strengthen yours, we will make the following proposition to any fruit grower of average honesty and veracity:

Divide your orchard in half, no matter how large or small. Spray one-half with "SCALECIDE", and the other with Lime-Sulfur for three years, everything else being equal. If at the end of that time, three disinterested fruit growers say that the part sprayed with "SCALECIDE" is not in every way better than that sprayed with Lime-Sulfur, we will return you the money you paid us for the "SCALECIDE".

Send for new free booklet, "Profits in Fall Spraying".

B. G. Pratt Co., Mfg Chemists
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BETTER FARM IMPLEMENTS

AND
HOW TO USE THEM

Take This Free Book With You

Before you go out on the farm this year, to do your level best to help win the war by raising more food, get this 156-page free book, "Better Farm Implements and How to Use Them."

Study it before you leave. Take it with you when you go. Consult it frequently while you are on "the second line." It is crammed full of information that will help you every day. Making it your text book will make you a better farmer.

Some of the subjects covered are: "How to Hitch Plows Correctly," "How to Adjust Plows," "Things to Remember When Planting Corn," "Proper Method of Corn Cultivation" and "Curing Hay."

Don't fail to get a copy of this free book. Write today, asking for package CM

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Best Quality of Corn

Is Assured by Using the Tower System of Culture.

Every feature of this Tower plan of corn culture embodies only common sense. The first essential to which all agree, is deep plowing or stirring of the soil five inches to seven inches depth, followed by thorough pulverizing to make a perfect seed bed. With first class seed adapted to the latitude of the farm, planted at the proper time, the corn is started in its growth. The Tower cultivator is proved the best of all for care of the corn from first to last and in all cultivations. It hoes by horse power; one man or boy and a team doing more work than ten men each with a hoe. It destroys the weeds, it makes a dust mulch, stirring every inch of the surface between the corn rows with no injury to the corn roots.

Nature's Way



These Corn Roots Within Five Inches of the Surface.

This system is right for potatoes and some other kinds of plants. Used according to our directions it largely increases the yield per acre and forces maturity about two weeks earlier than in the field that is tilled in the old grandfather way of deep plowing. Quantity and quality ideal, the value in every way is much improved. "Our Reasonable Reasons Why Everyone Should Use the Tower System" are sent free to the address which you furnish us.

Our cultivator bears the name "TOWER" on the tongue.

It is manufactured only at Mendota, Illinois.

The J. D. Tower & Sons Co.
MENDOTA ILLINOIS.

(Original manufacturers of surface cultivators)

1916 seed corn tests the best. He says that every one should resurrect all of their old 1916 corn for possible seed. The seed corn is being tested free of charge since it is necessary that all corn should be tested before being planted this year.

Twelve testing stations have been established throughout Ohio, some consisting of three counties in the district while nearly all western counties have a testing station. Fifteen thousand posters have been distributed to school teachers, giving instruction on the rag doll method of testing corn, and a letter by Governor Cox to stimulate the testing of seed corn in order to further greater crop production.

CROPS ON OHIO STATE FARM.

Corn, oats, and alfalfa constitute the main spring crops to be sown on the Ohio State University farm. Approximately 100 acres of Reid's Yellow Dent and 90-Day Clarage corn will be planted with seed testing 96 percent. Acid phosphate will be sown on the corn ground at the rate of 200 pounds per acre. Twenty acres of oats without fertilizer or manure is to be sown on ground awaiting use by the farm crops department. This department desires that no fertilizer or manure be applied on soil for their use. Thirty acres of oats will be sown as a nurse crop for alfalfa.

The aviation school and the farm crops department make indefinite any further plans for future crops. It is the opinion of the manager, Mr. A. C. Smith, that spring operations will be late due to the small amount of fall plowing done.

Walter D. Feller, '17, is farming near Mt. Blanchard, Ohio.

Armour's Fertilizers

**"The Bulwark of the Nation"
Make Every Acre "Do Its Bit"**



Write for Booklet or See Our Local Agent.
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That's what the UNIVERSAL MILKER puts into your dairy. ONE man does the work of THREE, easier and better. **CAN YOU BEAT IT?**

Get your order in early for a UNIVERSAL outfit, as there is an unprecedented demand for this NEW HIGHLY DEVELOPED machine that milks the teats in pairs, ALTERNATELY. It is a leader wherever known. Write for booklet, "No Stripping."

THE UNIVERSAL MILKING MACHINE CO.
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Maplecrest Pontiac Hartog

Son of Pontiac Aaggie Korndyke

Sir Pietertje Ormsby Mercedes 40th

Son of Sir Pietertje Ormsby Mercedes

Combining the blood of two great yearly herds. These are our herd sires

	Fat		Fat
Lucile Jolie Pontiac	938	Ona Button De Kol	1076
Early Dawn Peep 2d	1030	Ona Clothilde Wayne	1013

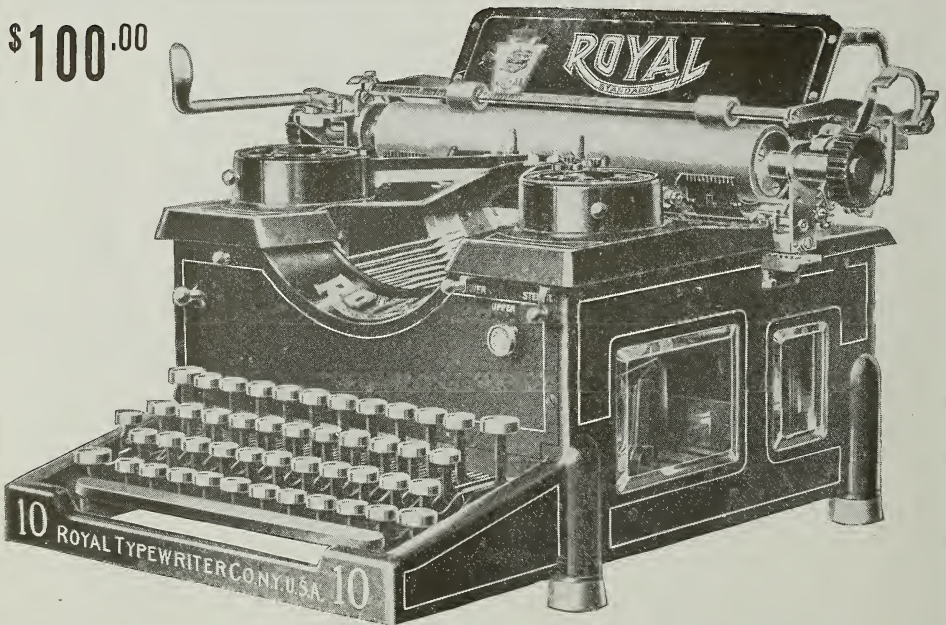
Wonderful yearly producers mated with these sires carry on the work of making the yearly record the real test of the Holstein cow.

We have one or two bulls that you will be interested in. Their pedigrees are well worth investigating and the bulls are mighty pleasing individuals, too. Write us about them.

PETER SMALL

CHESTERLAND, OHIO.

\$100.00



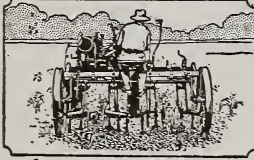
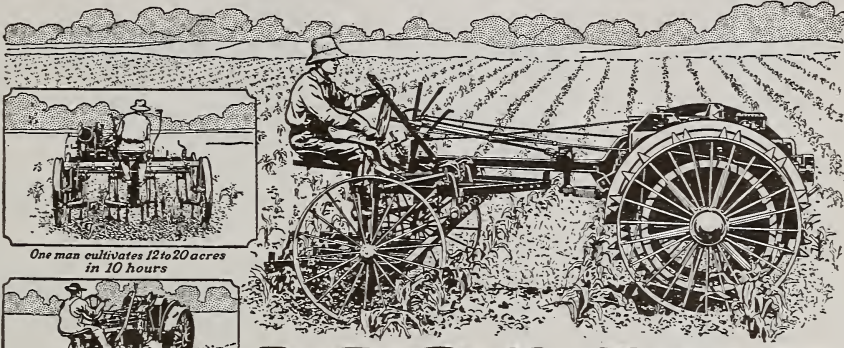
BIGGEST BUY IN THE WORLD

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Columbus, Ohio

Bell, Main 4614

ONE MAN CULTIVATES TWO ROWS AT A TIME *with the*



One man cultivates 12 to 20 acres in 10 hours



One man plows 5 to 8 acres in 10 hours



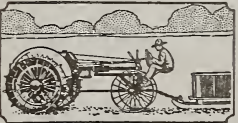
One man lists 12 to 20 acres in 10 hours



One man harvests 15 to 25 acres of grain in 10 hours



One man harvests 8 to 10 acres of corn in 10 hours



Equipped with rear carrying truck for odd jobs

MOLINE UNIVERSAL TRACTOR

"It Solves the Farm Help Problem"

More time is spent in cultivating than any other single operation. Sixty per cent of the crops grown on most farms are planted in rows which require cultivation.

If one man is to farm more land than ever before, he must also cultivate more. With the Moline-Universal Tractor one man cultivates two rows at a time and does it better, quicker and cheaper than with horses.

The Moline-Universal Tractor has ample clearance to straddle the corn row at all stages of growth. The operator sits on the cultivator in line with the right drive wheel of the tractor—not directly behind the tractor. This gives a clear view of the rows ahead. By keeping the right wheel of the Moline-Universal a certain distance from the outside row the whole outfit will go properly. For dodging individual hills the cultivator gangs are easily shifted by the operator's feet.

But cultivation is only one of all the farm operations which the Moline-Universal can do. It is light, but has more than enough power to pull two 14-in. plow bottoms, because all its weight is available for traction.

The Moline-Universal isn't the kind of a tractor that will do your plowing and seed bed preparation and then rest while your horses do the planting, cultivating and harvesting. It works to full capacity throughout the entire year with the greatest speed and economy.

Your Moline-Universal is ready now. Write today for further information and name of your nearest Moline dealer.

Address Department 85

MOLINE PLOW COMPANY, MOLINE, ILL.

For Fifty-Three Years Manufacturers of Farm Implements

Plows (Chilled & Steel)
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Stephens Salient Six Automobile

A Contrast

Once the Eskimo compared his tools made from bones and stone with those brought by the white explorers he lost no time in making the change. Truly, contrast is a great educator.

While not so obvious the cleanliness obtained when

Indian in Circle



In Every Package

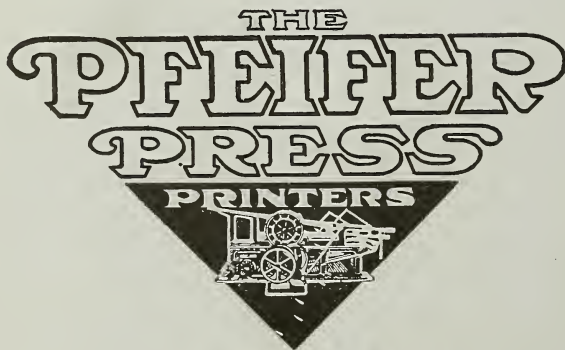
Wyandotte
Dairyman's
Cleaner and Cleanser

is used, nevertheless shows a contrast to that of other cleaners, which is both surprising and pleasing.

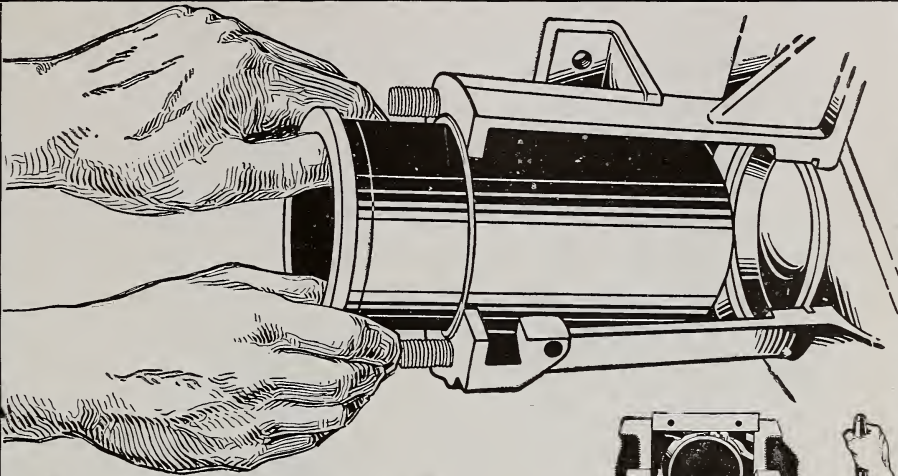
Truly, Mr. Reader, if the properties contained in this cleaner, and the results produced by its use time after time were not of a different quality and character, it would not be preferred by the Dairy Colleges and Dairymen the country over who rely upon it for maintaining pure, clean, sanitary conditions in their plants year after year. And neither would it be sold under a guarantee of satisfaction, or money refunded.

But why not try this cleaner, and know because of your own experience how efficient and economical are its results. Your supply man will gladly fill your order with this understanding. It Cleans Clean.

The J. B. Ford Co., Wyandotte, Mich., Sole Mfrs.



COLUMBUS, OHIO.



Pull Out This Avery Inner Cylinder Wall

THE inner cylinder walls of a motor are subject to more wear than about any other part of a tractor. In Avery Tractors these inner walls are separate castings. When worn or scored from any cause you can replace them at a small cost, with little trouble and practically no delay. Other tractor motors must be taken out of the frame and sent to a machine shop to be rebored, reground and fitted with oversize pistons, which means heavy expense, much work and long delays, or a complete new cylinder must be purchased.

When you have an Avery Tractor you can also adjust the crankshaft boxes which cannot be done with any other tractor. No need of tearing the motor down and rebabbiting the boxes when they wear a little, as they are bound to do on every tractor.

You can burn kerosene too, and more successfully than in any other tractor. The Avery Duplex Gasifier does the trick. No other tractor is equipped with it. Avery's are the tractors that burn ALL the kerosene.

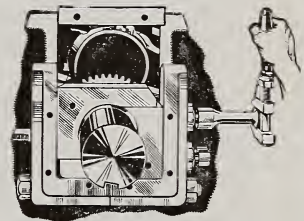
Write for Free Avery Motor Farming Book

Get all the facts about the Avery Line of Tractors. They have many other superior features. They are built in sizes to fit every size farm—six sizes from 5-10 to 40-80 H. P. Also learn about the Avery Two-Row Motor Cultivator—the newest successful Motor Farming Machine built. There's also an Avery Plow and an Avery Thresher to fit every size Tractor. Ask for new 1918 Complete Avery Motor Farming Book. Address

AVERY COMPANY, 6407 Iowa St., Peoria, Ill.

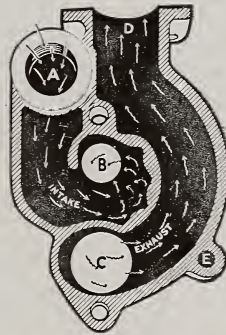
Branch Houses and Distributors Covering Every State in the Union and More Than 60 Foreign Countries

There's a size Avery Tractor for every size farm and every kind of work



Adjust This Avery Crankshaft Box

Take up any wear in a few minutes. Can only be done on Avery Tractors.



This Avery Gasifier Turns Kerosene into Gas

Burns kerosene better. Uses less fuel and lubricating oil. Only on Avery Tractors.





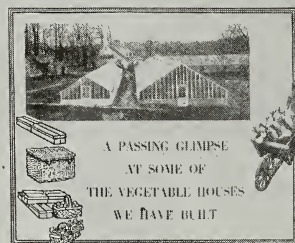
If You Are Planning To Grow Vegetables Write for This Booklet

This Booklet will help you when you are planning for the future, the time when you are going to work out the ideas and plans you have formed while in college.

The different greenhouses illustrated will help you form a picture of **your** greenhouse.

It has some common-sense facts about buying a greenhouse and illustrates the kind of greenhouse construction the "big people" are using.

One photograph shows the interior of George W. Kuchler's house at La Grangeville, New York, with a money-making crop of radishes ready for the market.



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Mr. Kuchler is a college graduate who saw the immense probabilities of all-year-round vegetable growing. He is making money at it. If he can do it, so can you. This booklet should be the first step to your success. Write for it now.

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